DOCUMENT RESUME

ED 316 247 IR 053 102

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TITLE A Regional Investigation of Citizens' Information Needs in New England. Project Report.
INSTITUTION Simmons Coll., Boston, Mass. School of Library Science.
SPONS AGENCY Office of Libraries and Learning Technologies (ED), Washington, DC.
PUB DATE Jan 81
GRANT G007900537
NOTE 322p.
PUB TYPE Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160) -- Statistical Data (110)

EDRS PRICE MF01/PC13 Plus Postage.
DESCRIPTORS Access to Information; Community Information Services; *Information Seeking; *Information Sources; Interviews; *Needs Assessment; Questionnaires; Reference Services; Referral; Surveys; *User Needs (Information); *User Satisfaction (Information); Use Studies
IDENTIFIERS *New England

ABSTRACT

In order to identify the information needs of individual residents of the six New England states, telephone interviews were conducted to generate baseline data relating to information providers (e.g., availability, linkage between sources, and institutional barriers to information provision) and information seekers (e.g., problem awareness and articulation, and source awareness). The study examines information seeking needs arising from both work and non-work contexts of 2,400 residents from rural and urban areas in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. In particular, it focuses on: (1) information requirements; (2) the various types of information source providers consulted, e.g., libraries, friends, neighbors, relatives, television, and newspapers; (3) the perceived level of user satisfaction with these providers; (4) a taxonomy of barriers to effective information seeking; and (5) reasons for library use and non-use. It was found that many people do not associate libraries with situations in which they have to find out something or solve a problem; if they do use a library, this source is frequently only one step in the information gathering process. It is recommended that libraries determine their unique role in the information seeking process and cooperate more fully with other institutional source providers so that both citizens and other source providers will associate libraries with the provision of information services. A copy of the telephone interview schedule is included. (42 tables, 17 figures) (SD)

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Project Report

Project No. 475AH90031
Grant No. G007900537

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A REGIONAL INVESTIGATION OF CITIZENS' INFORMATION NEEDS IN NEW ENGLAND

JANUARY 1981

U.S. DEPARTMENT OF EDUCATION

Office of Libraries and Learning Technology

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January 1981

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ABSTRACT

This study, which is the first comprehensive regional investigation of citizens' information needs arising from a work and non-work context, examines information seeking patterns of 2,400 residents from both urban and rural areas of the six New England states - Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. In particular, it focuses on information requirements, the various types of information source providers consulted (libraries comprise only one of the institutional sources), perceived level of satisfaction with these providers, a taxonomy of barriers to effective information seeking, and the reasons for library use and non-use. Baseline data were provided to delegates of the White House Conference on Library and Information Services. Data can also be used for better understanding the relationship of libraries to other source providers and for developing library programs designed to accommodate a wider variety of citizens' everyday information needs.

ACKNOWLEDGEMENTS

Without the support of the U.S. Department of Education, Office of Libraries and Learning Technology (grant #G007900537), this project would not have been possible. A project of this scope naturally involves many people. Unfortunately, not all of them can be acknowledged individually. We want to single out the following for special recognition. Part of the project was contracted to King Research, Inc. of Rockville, Maryland. Thus, its staff assisted in every phase of the project but most specifically with research design and data processing. In addition, Vernon E. Palmour, Douglas L. Zweizig, and Nancy Roderer of King Research, Inc. critiqued our manuscript; we are most appreciative for their suggestions and encouragement. Representatives from the six New England state library agencies, library networks, and library associations served as members of the Advisory Board. We are grateful to them for their thoughtful remarks. Numerous research assistants and staff members participated in this project with enthusiasm and devotion, throughout each phase of this project. Marian Ossman coordinated the typing effort of this project report and her assistance has been very much appreciated. Lorig Maranjian served as coordinator of the interviewers and carried out her responsibilities most admirably. During the first two-thirds of this project, Peter Neenan participated as a member of the senior research staff. We wish to acknowledge specifically his contributions to Chapters 1,2, and 4. Robert D. Stueart generously contributed his time in assisting us in most phases of the study. Specifically, we would like to acknowledge our gratitude for his continuing support, encouragement, and critical reading of the final manuscript. Mr. Henry Drennan of the Office of Libraries and Learning Technology, Department of Education, served as Project Officer. We benefitted greatly from his suggestions and encouragement.

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CHAPTER 1

INTRODUCTION

Federal, state, regional, and local authorities are expending considerable sums of money for the purpose of establishing networks, consortia, and other cooperative programs. These activities, presumed to be both necessary and functional, may be ineffective in that they reach only a small segment of their intended public and may not address a diverse range of information problems. It is critical that the fundamental question underlying support of these activities - namely, are such efforts appropriately and effectively responsive to the needs of their intended audience - be examined. Focus must be placed upon viewing information seeking individuals in the context of their information needs, the patterns and strategies capable of being undertaken in the information seeking process, and the success of individuals in resolving those questions or issues that gave rise to the information need. By so doing, the full range of source providers consulted can be identified and their interrelationships better understood. Studies should "focus on what people do, or wish they could do if they could just figure out how to get the necessary information."[1] In brief, library use ought to be viewed in the context of how people solve information problems.

The *Proceedings of a Conference on the Need of Occupational, Ethnic, and Other Groups in the United States*, sponsored by the National Commission on Libraries and Information Science in 1973, underscored the necessity of determining information needs of the general public. As was then noted, there is a "lack of solid information on the needs of people." Undoubtedly, a major reason for the knowledge void is that citizens' information needs

> "can be so easily confused with the needs of the institutions intended to serve them. Searches of the literature on needs for library and information services turn up relatively few publications oriented to user needs, as such. They turn up many more that are oriented to the needs of libraries and information centers as institutions. This is not to say that either the authors of the published papers, or the institutions that serve information users, are insensitive to needs. It does suggest, however, that it is easier to be explicit about what an institution needs than about what users, and potential users need. Being explicit about the needs of a given user population requires continuous, systematic, and sensitive contact with that user population. Most information institutions do not have the resources, or the determination to achieve that kind of contact."[2]

It should be noted in this context that the Final Report[3] on the White House Conference on Library and Information Services discusses the value of information to the citizenry and advocates a national policy. Such considerations undoubtedly necessitate an extensive investigation of citizens' information needs.

The purpose of this study, then, is to generate baseline data relative to the information environment in its various dimensions. These data specifically relate to source providers (e.g., their availability, linkage between sources, and institutional barriers to information provision) and to information seekers (e.g., problem awareness and articulation, and source awareness).

JUSTIFICATION FOR THE STUDY

The necessity for research on this topic, at the inception of this study in 1979, is apparent from the fact that in order to prepare for the November 1979 White House Conference on Library and Information Services states, territories, and other groups held 58 pre-conferences and tried to gather fundamental data on the information needs of the public. State librarians, other librarians and information specialists, and other people associated with networks expressed difficulty in getting data on this subject. Delegates to the Massachusetts Governor's Conference, for example, raised the issue of "how can the needs of both users and non-users of libraries and information services be assessed?"[4] They called for a detailed study into the reasons for which state residents turned to libraries. Similar resolutions came from other pre-White House Conferences. The legislative mandate for the White House Conference on Libraries and Information Services also addressed the need for access to "information and ideas" as "indispensible to the development of human potential, the advancement of civilization and continuance of enlightened self-government."[5]

Concern about information needs is apparent from other quarters as well. For example, the National Commission on Libraries and Information Science has perceived that convenient and realistic access to national information resources, in accord with individual need, is a right of all people of this nation. In a similar vein, the staff report to the President of the United States by the Domestic Council Committee on the Right of Privacy views information access as one of the basic principles upon which a national policy should be designed. Such a policy should, in the eyes of the committee,

> "encourage access to information and information systems by all segments of society to meet the basic needs of people, to improve the quality of life, and to enable the responsibilities of citizenship to be met."[6]

Support for an investigation into information needs also was called for in The Humphry Report, which was authorized by the Maine Library Commission and the Maine State Library in 1978. This Report, analyzing selected library service programs within the state, noted "The positive attitudes of users toward the servcies received." It called for improved services to state residents, and suggested that more than 350,000 residents lived in communities "without library service or with inadequate service."[7] One recommendation favored greater publicity of library services:

> "The public should be made aware of the benefits of regional library service, and the satisfaction and values that it has for its users....All avenues...should be utilized to educate the people about the value of libraries and the need to support them."[8]

Implementation of such recommendations would benefit from a detailed investigation into information needs and seeking strategies -- one placing library use and non-use in the context of a full range of information source providers.

The increasing vocal demand for more cost-effective provision of services in the public sector, as typified by Proposition 13 in California, and more recently with Proposition 2½ in Massachusetts, requires a more complete understanding of the process of information provision. In the last several years, various states and municipalities have reduced expenditures, and services. Operating in this context, libraries must learn to provide needed information more efficiently, anticipate future citizen information needs, and still operate on a persuasively cost-effective and accountable basis.

Evidence of these concerns was clearly and succinctly expressed in the Final Report of the White House Conference under the heading of "Meeting Needs," which is part of "Elements of a Comprehensive National Library and Information Services Program." More specifically conference resolutions[9] such as the following focus on these issues:

ELEMENTS OF A COMPREHENSIVE NATIONAL LIBRARY AND INFORMATION SERVICES PROGRAM

Preamble

A-1 A free and open democratic society depends upon the ability of its citizens to make fully informed decisions about the choices that affect their lives and their communities.

The White House Conference on Library and Information Services reflected the diversity of our citizenry and its needs. The Conference constituted a microcosm of all parts of our society. Delegates made clear that they believed access to information is power, and, that in our democratic society the people themselves want to decide how to use that power.

Meeting Needs

A-11 People want accurate information to guide them in making intelligent decisions about issues that concern them. They want to know how to find the government services they need to solve their problems. They want information on how to adapt to the rapid changes taking place in their environment. They want to expand their knowledge and range of choices through education.

A-1,A-3 Our citizens regard free and full access to information, especially information about public processes, as a basic right. They believe that library and information services should help to ensure this right.

A-8 Our society historically has been a harbor for those who believe that different ethnic, religious, and cultural groups can coexist within one Nation, can enrich our common tradition without infringing on any group's right to full freedom of expression, and can live in harmony without censorship.

A-9 In recent years, our citizens have insisted that they want more community control over the government programs that affect them, so that they can exercise more control over the services they support with their taxes. Delegates to the White House Conference demonstrated their belief in this principle when they passed a resolution calling for a National Information Policy "which shall include provisions which ensure local control of community libraries and information services."

The development of effective information resource dissemination systems, then, must proceed from a clear understanding of the needs of information seekers and the methods by which those individuals seek out information. This study, engenders a further understanding of the information seeking process and of the needs of information seekers. The principal national benefit, therefore, is the detailed assessment of information needs/ information seeking patterns on a multi-state basis.

Since the findings of previous studies have many similarities (see Chapter 4), we expected some of those results will also hold true for New England. Geography does not significantly affect information needs; therefore, together, the body of literature is limited in neither generalizability nor applicability. Still, the New England study does represent a departure from previous studies. It is the first to go beyond a single state and to test a different means of data collection.

PREVIOUS INVESTIGATIONS

Efforts to ascertain the information needs of actual users of library programs and services are not novel undertakings. A vast body of literature has been developed to report the findings of such inquiries. Numerous studies

have addressed the occupational information needs of such professionals as social scientists,[10] scientists,[11-12] physicians,[13-14] and engineers.[15] On the other hand, attempts to discern the information needs of the "average citizen" with a view towards ascertaining where various source providers (libraries being only one of several) fit into the information environment of the individual have only recently been undertaken. The body of literature that substantially treats this later issue must be characterized as sparse. One notable, early attempt to arrive at some generalized overview of citizens' information seeking behavior is Parker and Paisley's investigation of the information needs of residents of the California communities of Fresno and San Mateo.[16] Proceeding from their understanding of information seeking as observable in the context of communication patterns, they queried respondents concerning their utilization of both mass-media and interpersonal sources of information, as well as their use of adult education programs for information need resolution. Their study considered four topic areas from the perspective of how respondents obtained information on each: national and international public affairs; occupational skills and information; local public affairs; and leisure time activities. In addition to an analysis of demographic variables - including age, sex, occupation and income, psychological measures of achievement motivation and need affiliation were compared with information seeking behavior through multivariate analysis. A respondent's level of education was the most reliable predictor of formal and institutional source utilization as well as of interpersonal source use for information need resolution.[17]

Parker and Paisley's investigation is singularly important for its insight into the contextual environment of information seeking. The

particular type of soruces consulted by an individual are a function of a combination of demographic and psychological variables, rather than of the particular information situation encountered. Parker and Paisley's perception of people as living in an "information environment" with many alternate sources served as one conceptual basis for Zweizig's inquiry[18] into the predictors of public library utilization by people in the Syracuse, New York area. The library, therefore, was just one element in a wide spectrum of information source providers. Zweizig probed both demographic and non-demographic variables. Non-demographic variables found to relate significantly to public library utilization were: amount of book reading; community involvement; past use of professional sources; open-mindedness; knowledge of the library; and perceived credibility of the library as an information source. Demographic variables relating to library utilization included: level of education (the higher the level the greater the tendency toward library use); sex (females were more likely to resort to use of the library for information need resolution than were males); and age (younger respondents were more likely to use the library as one of their information resources than were older members of the sample).

A major study sponsored by the U.S. Office of Education probed the information needs of residents in urban areas. The 1973 investigation by Warner, Murray and Palmour examined information needs, information seeking strategies, and search outcomes of the citizens of Baltimore.[19] Information needs, derived from the sample members interviewed, were recorded within an information needs matrix. For the sample as a whole, a high incidence of information needs was reported, with a mean of 4.95 problems cited in response to interview questions. Those information problems cited spontaneously by

respondents tended to fall within the most "urgent" areas of the need matrix, while those that were generated through further, in-depth interviewing conformed to areas of "less pressing" need. Individuals' awareness of the presence of an information problem, and their ability to articulate this problem, related directly to their socio-economic status. Thus, the higher a person's level of education and income, the greater his or her information problem awareness and ability to articulate its dimensions. In addition, such awareness was significantly related to age (i.e., older respondents displayed a significantly decreased ability to articulate problems). As was the case with problem awareness and articulation, this study found that both education and income were directly related to a person's tendency to seek information more often and to call upon a wider range of sources when so doing.

As mentioned before, examination of successful searches among the survey group demonstrated the presence of an underlying relationship between level of education and successful resolution of information need. While differing success rates were reported for different categories of information problems, the relationship remained static for all categories of problems confronted. In an effort to ascertain whether different information seeking strategies might prove effectiveness for different subgroups of the sample, the researchers used the Automatic Interaction Detector (AID) model.[20] Reliance upon personal contacts and acquaintances for information need resolution was the most effective strategy used by members of the professional and managerial classes, whereas utilization of a maximum number of information sources, both interpersonal and institutional, resulted in the most effective information seeking by members of other groups. A major generalization of

of the study was that "...the best resources are accessed most effortlessly by the more advantaged members of society."[21]

In another U.S. Office of Education sponsored study, a three phase *Strategies for Dealing with the Information Needs of Urban Residents*, Dervin, Zweizig, et. al.,[22] investigated the information needs of residents of the city of Seattle, Washington. This first phase of that study marks a significant departure from previous investigations into the information needs of urban residents, because it focused on the situationality of the client as a basis for understanding and assessing information needs of a particular information seeker. The useability of information and the perceived success in obtaining information were approached from the perspective of the client within his or her own particular context. This first phase served as a baseline in developing strategies for information professionals to utilize in designing "client-in situation" programs, rather than "client-as abstraction," which was previously the case.

Gee applied the methodology developed by the previously mentioned Warner study to elicit the information needs of residents in the small and medium-sized cities of Syracuse and Elmira, New York.[23] In that study, an

information need was defined as a problem or question recognized by an individual for which either information or services are needed. The findings of the study were similar to those of the Warner study. Gee, therefore, concluded that the Warner methodology could be applied elsewhere.

All the studies mentioned so far have concentrated upon eliciting the information need resolution patterns employed by urban residents, and only a few efforts have attempted to ascertain a similar portrait of information requirements of residents of non-urban areas. The studies emphasized the urban setting not because it was believed that urban needs are different or more important, but rather because of federal funding priorities at that time. Rieger and Anderson's investigation into the information needs was one of the few studies to probe differences between information needs based upon perceived importance of problems in specific areas.

It attempted to arrive at a generalized overview of the process of information source negotiation.[24] The investigation centered upon the Grand Traverse Bay area of Michigan, a five-county region which is characterized as an "integrated urban-rural" community. They attempted to ascertain whether a "hierarchy" of information needs (the relative frequency of information needs in topics) could be determined and whether resource utilization and information seeking patterns varied according to the nature of a particular information problem and its locus on the information needs hierarchy. Their analysis provides a typology containing the following information need areas: financial; occupational; professional and farm; public affairs; consumer affairs; educational, and career.

In the process of source utilization, Rieger and Anderson observed several discernable and significant differences among groups in the population. The age of the information seeker was found to correlate with information source utilization in such a way that younger respondents tended to consult a wider variety of sources than did their elders. Education also related to source utilization; the higher the education level of the respondent, the greater the use made of a variety of information sources.

Reiger and Anderson discovered that there was pronounced dissatisfaction with the information source providers.[25] Overall, one-fourth of the respondents reported some degree of dissatisfaction with the information they obtained. Within individual situation categories, there was greater dissatisfaction expressed for situations such as finance (19.6%) than for situations such as education, occupations, and careers (8.1%). Of particular relevance in this study is the relationship discovered between educational level and expressed dissatisfaction with information obtained, i.e. the greater the level of education possessed by the respondent, the more likely there would be expressed dissatisfaction with the quality, applicability, or relevance of the information obtained.

Two other studies, funded by the Office of Libraries and Learning Resources, U.S. Office of Education, exclusively concerned with the information needs of residents or rural areas, have been completed.[26-27] Both the inquiry of Barron and Curran, focusing on the general information needs of residents in the rural South, and the investigation conducted by Mary Eidleman to ascertain the needs of residents of a three county rural area in Maryland's "eastern shore" for information and referral (I&R) services, provide further insight into information need resolution for individuals who comprise this little-studied segment of the population. The Barron and

Curran study produced guidelines for rural library personnel in the planning of library programs responsive to community needs. As they emphasized, the information needs of rural library users must be known and addressed. The Eidleman study documents the need for an information referral service and demonstrated that the successful implementation of such a service could make public libraries a center for community information. "Cooperation increased between the agencies and organizations in the counties as they became aware of the unmet needs."

Of all the studies discussed, the final one provided the largest geographical coverage. It was the first study of information needs on a statewide level. Palmour, et. al. surveyed California citizens to elicit information needs, primarily those of a "coping nature." They noted that previous studies found: (1) "people use information to make personal sense," (2) "people with different situational perceptions require different kinds of sense," (3) "people find sense when and where they can," (4) "information needs differ from moment to moment," (5) "information systems and the people they serve seem to exist in two different, mismatched worlds." In brief, these findings "suggest that the most useful way of learning about how our information systems can be more helpful is to come to understand how people make sense in their lives and on their jobs regardless of whether or not they use our institutions at all or use them in ways we expect them to."[28]

Many of the studies related to "library use" similarly provide insight into the information needs and sophistication of information users. Reviews and analyses of the pertinence of these studies to information needs analyses

can be found in Zweizig and Dervin,[29] Bates',[30] Bourne,[31] and Palmour, et. al.[32] Furthermore, previous studies of citizens' information needs have developed extensive methodologies for investigating what are generally referred to as "coping" needs.[33,34] These same studies have found that less than five percent of the persons with this kind of need use libraries in pursuit of solutions.

Previous source utilization studies focus upon members of the "general adult public" and reflect considerable similarities in their findings. Information needs do not exist in a vacuum, but on a continuum. Problem articulation and success in information seeking is a function of the socio-economic and psycho-social sophistication of the individual. This relationship holds for adults in both urban and rural settings. The present New England information needs study, which affords opportunity to examine information seeking from a wider perspective, enables further testing of those generalizations derived from these previous inquiries.

RESEARCH AREAS IDENTIFIED FOR THIS STUDY

The present study benefits from numerous previously mentioned studies, and their methodologies. The following areas are specifically germaine to the design of our study methodology, which is discussed in great detail in Chapter 2.

Information Seeking Process

Our inquiry is not the first to attempt this type of investigation. It represents, however, a significant departure from previous efforts in this direction. From the previous discussion, it is clear that an understanding of information seeking patterns can evolve only from an assessment of the information seeker within the context of his or her information problems, and upon the types as well as source provider options. Parker and Paisley stated it this way: "...what kinds of people seek what kinds of information through what channels."[35] Since information seeking is, at base, a manifestation of the process of communication, any information seeking study must be aware of those elements of the communication process as identified by Schram and others,[36] including: initiator, message, recipient, channel, and effect.

Information Source Providers and Information Seekers

To ascertain the nature of information seeking processes, one must ideally address: first, the general makeup of consulted source providers; secondly, the world in which the individual information seeker lives; third, the relationship between the information need and the source provider consulted; and finally, the relation between type of source providers consulted and the success with which the individual's information need is reduced or resolved. As is evident, the information seeking process merits extensive analysis, with each new study building upon previous research.

Information source providers are potentially limitless in number. People find information when and where they can. They might rely upon their own experience and thoughts, or upon another person, group, institution, or mediated channel of communication. Drawing upon the efforts of previous communications theorists, this inquiry classifies this vast array of information providers into the same three-part taxonomy, used in the California study,[37] which is predicated upon the immediacy of interaction provided by the source. Interpersonal sources (one's self, co-workers, friends, family) represent the first category of this classification, while institutional (professional people, agencies, institutions, and associations),[38] and mass media (television, radio, and print) comprise the other two. Interpersonal sources of information afford the greatest opportunity for two-way communication and immediacy of interaction, and media sources the least.

A significant finding of past studies is the generally felt preference for interpersonal sources, one that holds constant regardless of demographic variations or categories of information need. That overwhelmingly common

characteristic gives rise to the belief, investigated in this present inquiry, that preference for interpersonal sources is uniformly manifest across types of respondents and situations.

As the Warner study indicated, however, the success with which such interpersonal strategies resolve perceived needs is directly related to the extent to which information seekers identify appropriate individuals.[39] Since this relationship, in turn, appears to be a function of the socio-economic status of the information seeker, it gives rise to a correlary to the above mentioned hypothesis, i.e., the degree of satisfaction expressed by respondents with interpersonal sources will be directly related to the occupational, educational, and income levels of respondents.

Information Seeking Situations

The abundance of potential information resources is parelleled by the limitless range of situations in which problems arise that require utilizing one or more information source providers. Similar to Dervin's approach in the Seattle study,[40] this investigation uses topics to classify situations. Both studies content-analyze responses and assign them to one of the following categories: Consumer Issues; Job-related: Technical; Job-related: Finding or Changing Jobs; Job-related: Organizational Relations; Job-related: Salary and Benefits; Housing and Household Maintenance; Education and Schooling; Money Matters; Recreation; Health; Child Care; Personal Relations; Energy; and Transportation.

Coping and Work-Related Information Needs

Pervious efforts to analyze success and failure in information seeking behavior, most notably the previously mentioned Seattle[41] and California[42] studies, have noted that informa-

tion needs most commonly reflect "coping level" requirements in which the urgency of need and the immediacy of resolution are greatest. The identification of needs as "coping level" is extremely complex. The needs articulated in the Seattle and California studies relate frequently to "coping" situations, perhaps because respondents mostly face this type of situation, because "coping" situations are more readily recalled than are those of a "non-coping" nature, or because the question phrasing elicited "coping" rather than "non-coping" needs. Even though our question phrasing is similar to that of the previous studies, it elucidates the extent to which "coping level" needs emerge within the context of particular areas of an individual's daily life. In the course of our investigation, attention was also given to the work-related situations in which information was sought in response to a perceived need. This strategy enabled not only the probing of situation categories and source utilization within two areas of an individual's life, but also the analysis of whether "coping level" needs tended to arise with significantly greater frequency in one area or the other. Of particular concern is examination of the relationship between category of need and source utilization in resolution of need.

Barriers to Effective Information Seeking

The success with which an individual resolves an information need varies according to the presence or absence of barriers that affect access to pertinent source provider(s). Dervin has conceptualized a model of information environment linkages and barriers that may potentially inhibit effective resolution of an information need.[43] As noted previously, four elements comprise the information seeking environment of individuals: the

individual himself or herself; his or her information needs; available information sources; and possible resolution to the individual's information need. Among these four elements, six linkages have been postulated as comprising the information seeking network of the individual: (a) individual-information needs; (b) individual-information sources; (c) individual-information solutions; (d) information needs - information sources; (e) information need-solutions to information needs; and (f) information sources -- solutions to information needs.

With each linkage, barriers may arise denying effective access to an individual's resolution of an information need. Dervin has classed these barriers into five groups: societal, institutional, physical, psychological, and intellectual. Societal barriers are those that impede the availability of the resources necessary to satisfy needs within the social system. Institutional barriers may be viewed as the incapacity and/or unwillingness of an institutional source to deliver needed information to the seeker. Psychological barriers arise when the individual is psychologically unwilling to perceive his or her needs as informational in nature, obtain needed information from appropriate sources, or accept the possibility that the information problems can be solved. Physical barriers impose themselves when the individual is unable to make contact with the appropriate information sources due to some physical consideration, such as a handicap. Intellectual barriers are present when the individual lacks necessary training and expertise to acquire information.[44] To the extent that such barriers limit access to needed information, the presumptive right to information access will have been denied or abridged.

Instances in which these barriers operate are investigated in library and information science literature, although they are widely scattered and tend to focus upon particular subcategories, rather than the general population. Sjoberg, Brymer, and Harris have examined the barriers that bureaucratic organizations display in thier relationships with lower income Mexican-Americans in San Antonio.[45] They perceive these barriers as two-fold in nature: (a) those stemming from client-group difficulties when confronted with bureaucracies arising from a lack of knowledge of the "rules of the game" as well as the preference of the client-group members to rely upon interpersonal rather than impersonal sources for problem resolution; and (b) the role of the bureaucratic system, as a key element in enforcing social stratification and in maintaining the distance between the "middle-class" perspective of the bureaucracy and the "lower-class" nature of its clientele.[46]

Divorski, Gordon, and Heinz conducted an experiment designed to discern the degree of compliance of agencies at city, county, and state levels with statute and common laws respecting the release of government information.[47] Their investigation dealing with offices of agencies in the city of Chicago demonstrated the capacity of agencies to deny such information. For example, they found that less than 46 percent of initial requests for information received replies, while of the remaining requests, close to one-half were responses to what had been deemed by the investigators as requests for "innocuous information" made by a politically "neutral" inquirant.[48] Additional findings from that study demonstrated that perceived political threats to the agency, the nature of the requested information, and the apparent power of the requesting party were likely to determine the willingness of the agency to release information presumed to be in the public domain.[49]

Gordon, et. al., developed a model to account for agency behavior observed in the course of the previously mentioned inquiry.[50] Their model is founded on the proposition that the agency's decision to disclose information depends upon two elements: (1) the nature of the information seeker and (2) the nature of the information requested.[51] Each is associated with a corresponding link. If it is to the advantage of the organization to release information, such actions will be positively linked, and vise-versa. The agency will likewise valence the information seeker in terms of the requestor's standing with the agency. Based upon these propositions, the following assessment model for information release decision on the part of the agencies has been devised:[52]

$$D = E_1W_1 + E_2W_2 + \dots E_nW_n$$

D = decision to release or not to release

$E_1 \dots E_n$ are the elements that are taken into account in making that decision, and can be positively or negatively valenced.

$W_1 \dots W_n$ are the weights attached to those elements, which reflect their salience and are always positive or zero.

Apparently, the existence of barriers to information access is a function of the ability of the information seeker to identify and negotiate appropriate source(s), as well as the willingness and perceived self-benefit of the agency.

Levin and Taibe's examination of the relationship between lower-status public housing tenants and the bureaucratic structure of the housing agency indicates additional barriers that may interpose themselves between the information and the seeker.[53] In interviews of 452 female tenants in 25 housing projects, they found that individuals characterized as "socially

handicapped," e.g., blacks, the poor, and the uneducated, were less knowledgable concerning the nature of the bureaucratic power structure, particularly with respect to the decision making processes of the housing agency.[54] In addition, these individuals were not as likely as other tenants to obtain adequate housing related services, to be informed of their place on waiting lists for public housing nor to have management respond to expressed need after acquiring tenancy. Furthermore, "socially handicapped" tenants did not see their cases as remediable and articulate their grievances less often than other tenants.

OVERVIEW OF PRESENT STUDY

Table 1-1, which summarizes previous studies, elucidates geographical areas investigated and the types of information probed. From this table and the discussions in this chapter, it is clear that this present study, the first regional or multi-state analysis, benefits from previous research projects and their methodologies. The conceptual basis of this investigation is similar to the California study. People find themselves in situations, some of which result in information needs, and they tend to use a variety of sources. Situations are not the same as information needs. Information needs arise from situations. This New England study does not emphasize the type of psychological and coping questions identified and probed in that California study. Furthermore, the methodology of this study differs from the California one. The survey was conducted by telephone and questionnaire design forced work, as well as non-work, situations to be described. Non-work situations dominated all the previous studies of citizen information needs.

Details on the methodology of this study are presented in Chapter 2. Chapter 4 compares the major findings of this study to previous research,

Table 1-1: Previous Investigations on Information Needs

	CATEGORIES	SCOPE
Occupational Needs of Professionals		
	Scientists, Physicians, Engineers, Social Scientists, etc.	Varied by Study
Non-occupational Needs of General Citizens		
URBAN	Parker and Paisley (1966) - Two samples of California adults	What People Seek Which Information Through Which Channels
URBAN	Zweizig (1973) - Public Library Utilization in Syracuse, NY	
URBAN	Warner, Murray & Palmour (1973) - Baltimore Urban Residents	Perceived Information Needs and Information Source Providers
URBAN	Gee (1974) - New York Small and Medium Sized Cities	Perceived Information Needs and Information Source Providers
URBAN	Dervin, Zweizig, et al. (1977) - Seattle Urban Residents	Situation Oriented
URBAN	King Research - California Study (1979)	Situation Oriented
RURAL	Rieger & Anderson (1965) - Michigan Mixed Rural/Urban	Hierarchy of Information Needs
RURAL	Barron & Curran (1978) - South Carolina	General Information Needs
RURAL	Eidleman (1979) - Maryland "Eastern Shore"	General Information Needs

thereby adding to the validity of research on citizen's information needs.

The primary purpose of the study is to identify situations in which citizens of the six state New England region needed information; to examine their perceived level of satisfaction with information source providers: interpersonal, mass media, and institutional, including libraries; and to determine a taxonomy of barriers to effective information seeking.

In summary, this investigation, which builds upon previous research, examines a broad range of information needs, relating to both work and non-work situations, including those of a recreational, cultural, occupational, educational, and human development nature. In the study, the term "information" is defined as all knowledge, ideas, facts, and imaginative works of the mind which have been communicated, recorded, published and/or distributed formally and/or informally in any format. A complete description of the study objectives and the methodology to be used to accomplish them is presented in Chapter 2.

RESEARCH SETTING

The findings of this study cover a larger geographical area than previous investigations. The six states comprising New England (see Figure 1-1) display a wide variation in terms of their residents' situs (urban/rural), socio-economic status, information source availability, and opportunities for information source accessibility. In Maine, for example, some 200,000 people live in towns with no libraries, and approximately 30 percent of the public libraries do not have telephones. In addition, information resources are scarce and the number of professional librarians is small. In contrast, Boston is information rich with its reknowned public libraries, over 100 university and college libraries, and numerous special

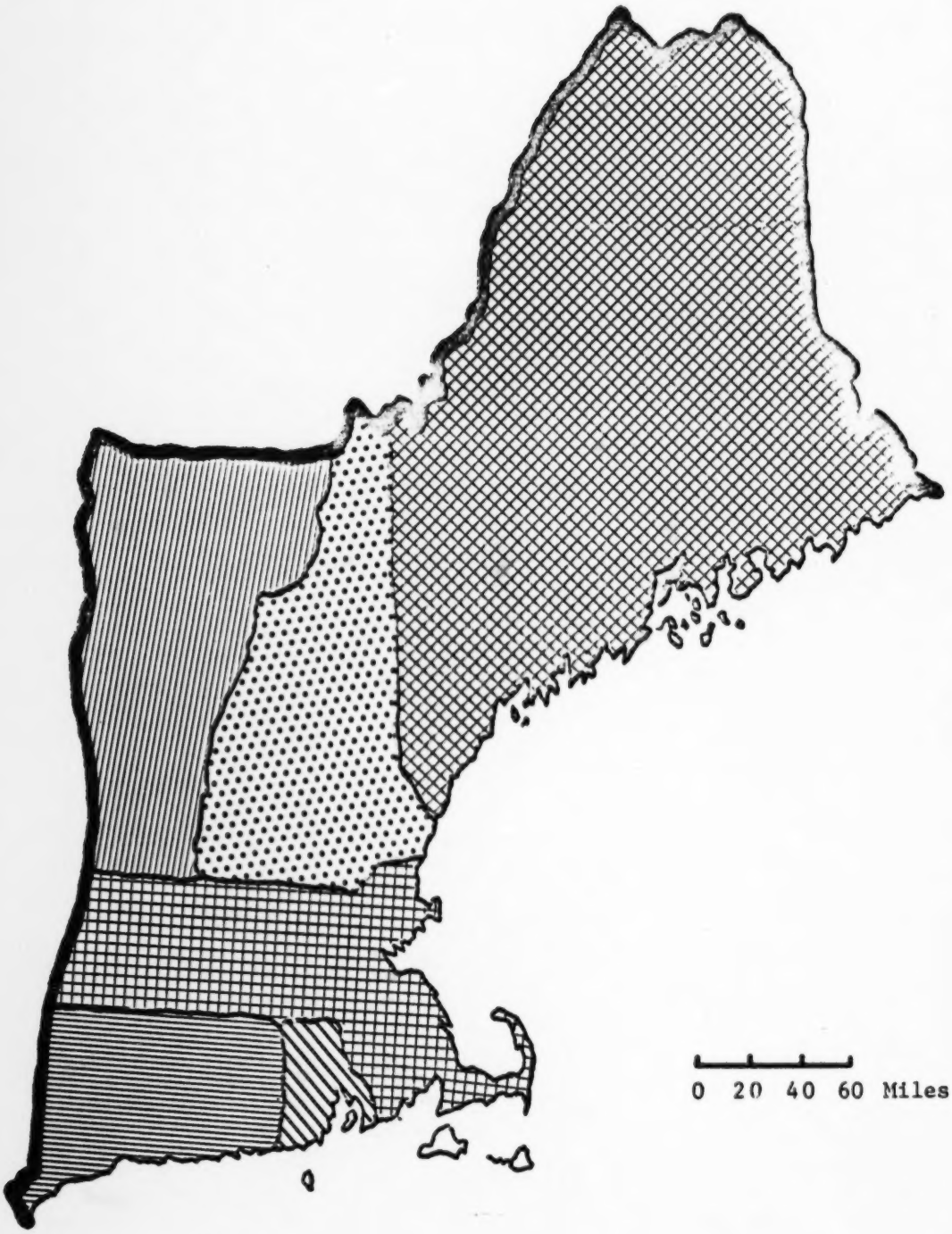
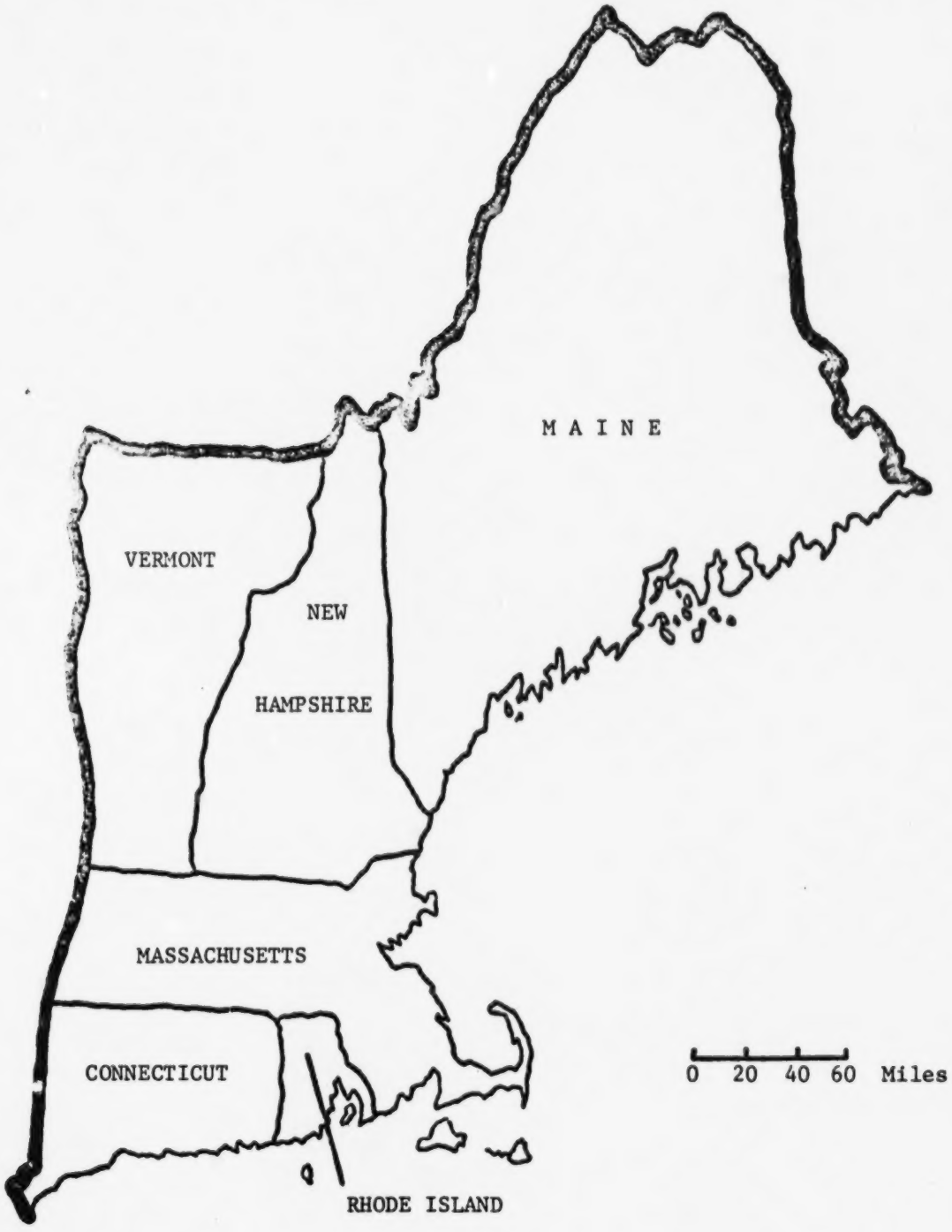

0 20 40 60 Miles

Figure 1-1. The Six New England States



and school libraries. As is evident, differences within New England relate to an urban-rural split, socio-economic differences, and the information rich and poor. Residents can also be compared on a state by state basis.

The New England area provides a unique laboratory within which to ascertain the extent to which such variations affect information seeking patterns and need resolution of the general public. This investigation thus becomes the first to examine these problems on such a broad geographical scale. As such, it builds upon the conceptual findings of previous inquiries related to the questions of information needs and information seeking, and examines the applicability of these findings in a more generalizable setting.

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5. P.L. 93-568; 88 Stat. 1855.
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18. Douglas L. Zweizig, "Predicting amount of library use: an emperical study of the role of the public library in the life of the adult public," Ph.D. dissertation. Syracuse University, 1973.

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20. Ibid., p. 175. "The AID program sequentially performs two-way splits of the sample, with each split resulting in the greatest reduction in variance. The AID program, thereby, makes a decision as to which variable and which breakpoints will maximally reduce the unexplained variance. No further splits are made: (a) when no variance is left unexplained, or (b) when splits on the remaining variables will result in no further reduction in unexplained variance, or (c) when the cell size of a group is too small to be further subdivided."

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22. Brenda Dervin, et. al., The Development of Strategies for Dealing with the Information Needs of Urban Residents. Seattle, WA: School of Communication, University of Washington. (U.S. Office of Education, Office of Libraries and Learning Resources, Project No. L0035JA.) Phase I: Citizen Study, April 1976 (ED 125-640); Phase II: Information Practitioner Study, February 1977 (ED 136-791); Phase III: Applications, November 1977 (ED 148-389).

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37. Vernon E. Palmour, et. al., Op. cit.

38. Professional people have been classified as institutional sources because they are representatives of institutions and are, therefore, not similar to interpersonal sources.

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40. Brenda Dervin, et. al., Op. cit.

41. Ibid.

42. Vernon E. Palmour, Op. cit.

43. Brenda Dervin, "Information needs of urban residents: a conceptual context," in Edward S. Warner, Ann D. Murray and Vernon E. Palmour, Op. cit. pp. 8-42.

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CHAPTER 2

CONCEPTUAL MODEL AND RESEARCH METHODOLOGY

This investigation studies various information seeking patterns of adults living in the New England region. In so doing, it proceeds from the assumption that analysis of information need resolution can best be attained through an understanding of the complex relationship between source providers and information seeking individuals. It focuses on information in relation to individual, rather than group, need. In brief, this undertaking analyzes the effectiveness with which individuals are able to utilize information sources in response to problems that arise in the context of daily life. Additional insights into the types of situations described by respondents can be found by utilizing four of the thematic categories developed for the White House Conference on Library and Information Services.[1] Situations generated from this study are further dissected in light of the following categories: "Meeting Personal Needs;" "Enhancing Life-long Learning;" "Improving Organizations and the Professions;" and "Effectively Governing our Society." Detailed analysis of situational categories, including which source providers were consulted, is presented in the following chapter.

This investigation proceeds from the assumption that obtaining information is a process in which sources exist as "links" to other sources, perhaps in a hierarchy from least to most suitable sources. Of concern to this study, therefore, is the identification of which sources occupy what

positions (e.g., intermediate or ultimate source provider) and under what conditions. Possibly, institutional and mediated information source providers serve more frequently as intermediate links in the overall process, while interpersonal sources more frequently serve in an "ultimate" provisional capacity.

One part of this investigation of New England residents probes how and to what extent such barriers impede the effective linkage between information seekers and information sources. Direct analysis of such perceived barriers as cost, time, accuracy, and relevance are weighed in relation to the decision to consult a particular source, or sources. In addition, extensive analysis is undertaken to determine the reasons for library use and non-use. Indirect evidence for the presence of psychological, societal, or educational barriers are probed through analysis of socio-economic data for respondents. Presumably, a negative relationship will exist between socio-economic status (SES) and the limiting influence of barriers. Further, the psychological barrier of information problem/need articulation will be similarly related to SES: individuals with lower occupational status, income and education will experience more difficulty in articulating their need.

To repeat, the conceptual basis for the New England study is that <u>people find themselves in situations where they must make a decision, find an answer to a question, solve a problem, or try to understand something</u>. In attempting to find solutions, they use a variety of sources. Situations are not the same as information needs. Actual information needs are embedded in situations. In contrast to the Seattle and California studies, this one does not regard information needs as the questions which arise in the situations. The questions as framed in these two studies most often identify "coping level" needs.

At this time, we are unwilling to conclude that such needs are so dominant; therefore, attention will be given to both work and non-work related situations.

Thus, the differences between the present study and previous ones (e.g., Baltimore, Seattle, and California) are as follows:

- Previous studies have relied upon mail questionnaires and interviews; as we will explain, this one tests to see if such complex interviews can be conducted satisfactorily by telephone. (We consider this to be our methodological contribution);
- The methodology of previous studies tended to elicit primarily non-work related,coping situations; this study incorporated methods to ensure the discovery of work-related situations.
- Previous studies had not looked in-depth at why particular sources were used; this one investigated this in terms of the perceived value of source characteristics; and
- Previous studies had not gone beyond a single state; this study comprisees the first multi-state investigation.

The following section of this chapter discusses the study design, the nature of the population surveyed, determination of data gathering methods for this study, the implementation of these methods, and the approach undertaken in analysis of survey results.

STUDY DESIGN

Since information needs arise from all sectors in the life of an individual, this study focuses on both work and non-work areas, as depicted in Figure 2-1. Previous efforts to examine information seeking behavior have focused upon either particular types of information need or the broad context

study matrix

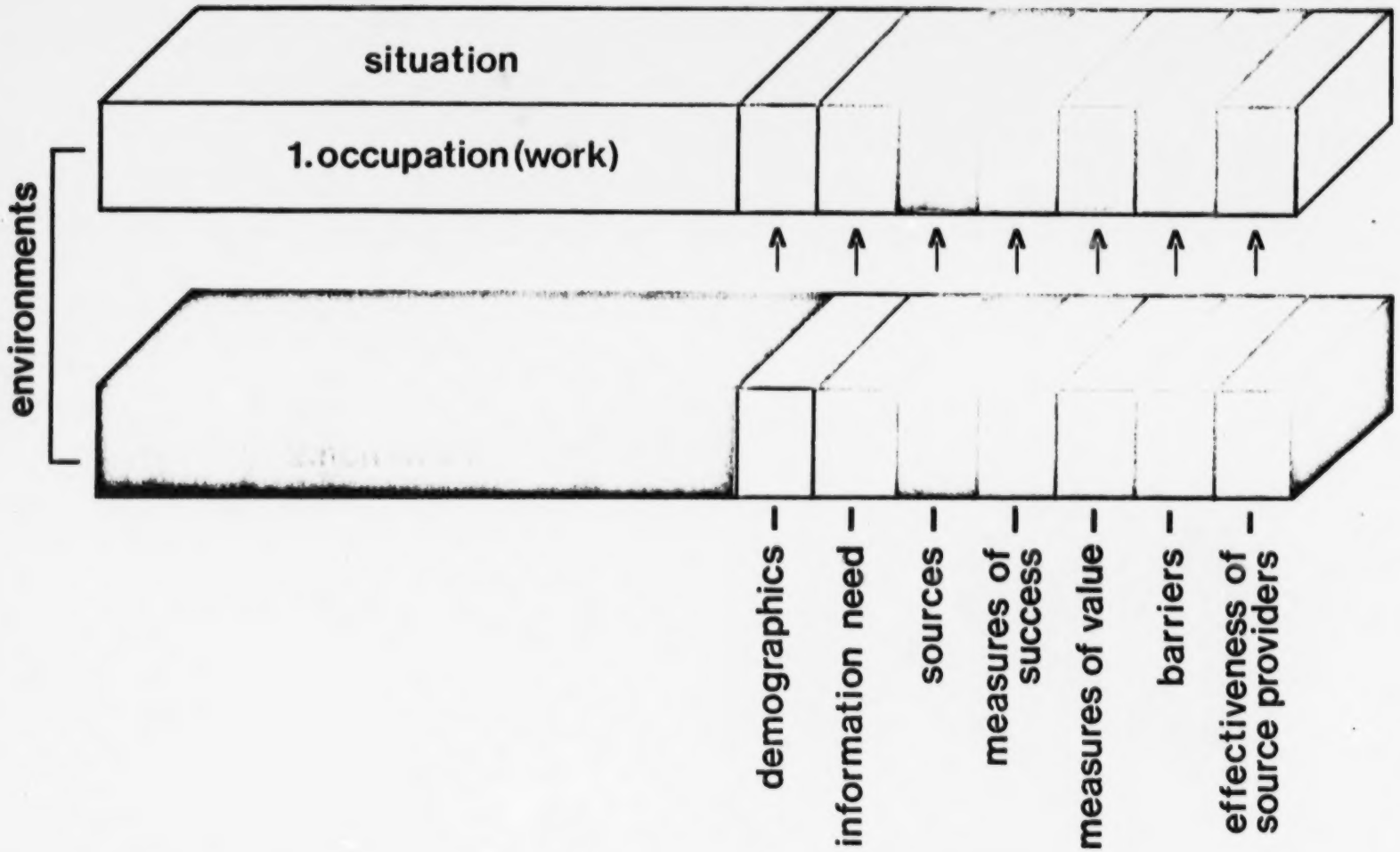
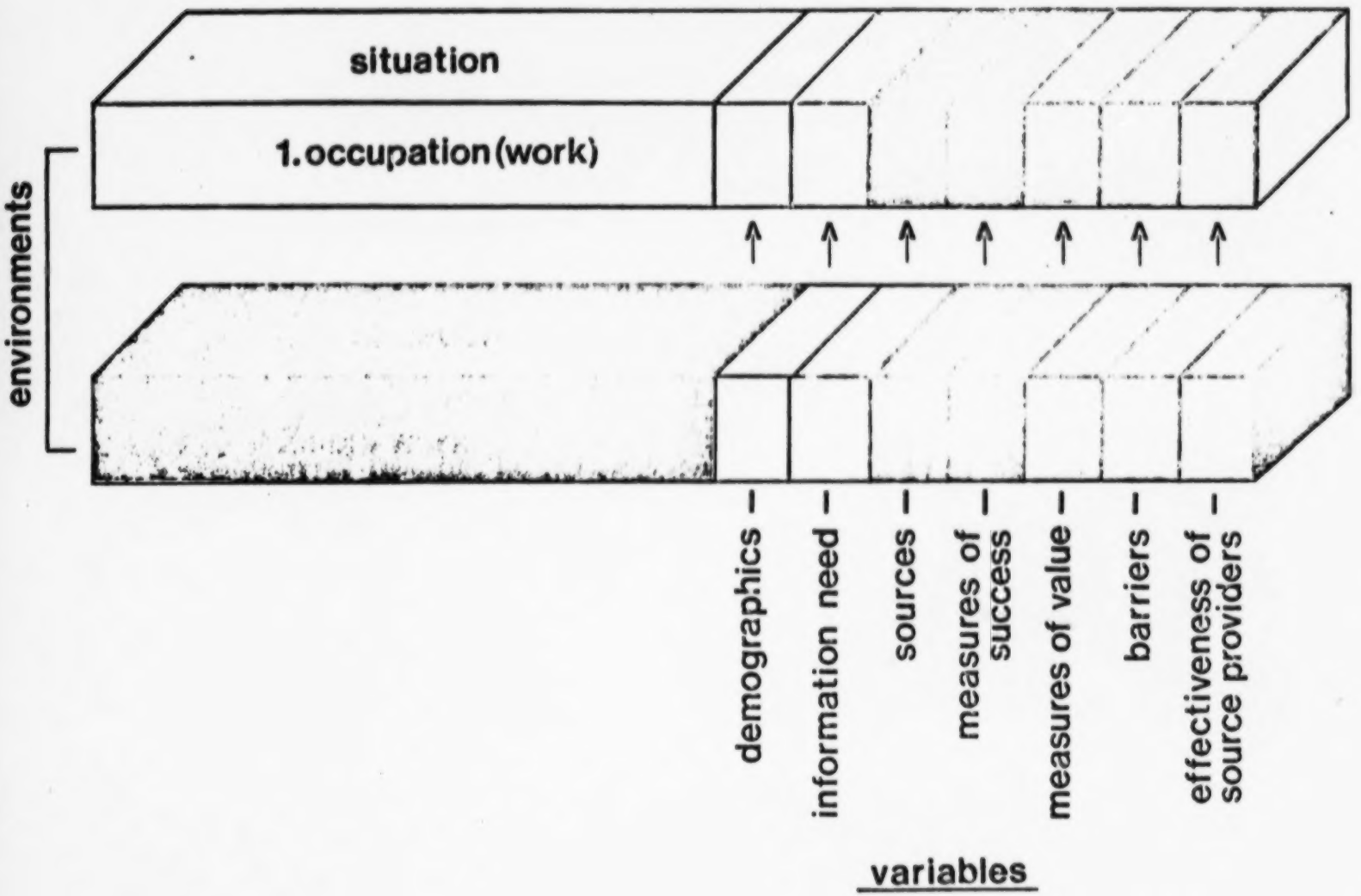


Figure 2-1

study matrix



of information seeking without prior specification of categories. Both approaches are flawed. The lack of categorical specification automatically limits a study's detail and depth, while focus upon a single area excludes the possibility of touching upon other significant elements.

Further justification for the approach of this study is found in the ability it affords to examine information seeking within occupational and non-occupational concepts of an individual's life. Types of information need, their level of immediacy, information sources consulted pursuant to meeting these needs, and the general public's perceived level of satisfaction with these sources may all be examined in the light of the extent to which they differ in an individual's occupational and non-occupational circumstances. This investigation ultimately enables the addressing of a body of vital questions, such as the following:

- Is there a greater tendency to utilize interpersonal information sources in work related areas?
- Is the level of satisfaction with source providers higher for occupational information needs?
- Do particular types of barriers to effective information seeking arise more frequently in one area of an individual's life than in the other?

In brief, then, this investigation seeks a cross-comparison of situation categories, strategies of information seeking, and perceived satisfaction with information source provision in a manner hitherto ignored in studies of general information seeking by members of the adult public, in both work and non-work related contexts.

STUDY OBJECTIVES

This study, which deals with citizens of the six-state New England region, seeks to:

1. Ascertain situations in which residents made a decision, found an answer to a question, solved a problem, or tried to understand something:
   - Depict such situations for the general population as well as the component sub-groups of this population;
   - Differentiate among job-related, and non-occupational situations;
   - Identify the utilization patterns of the various channels of information communication and dissemination: interpersonal, institutional, and mass media; and
   - Relate information source utilization to specific situations.
2. Examine New England residents' perceived level of satisfaction with information source providers:
   - Depict the factors related to perceived satisfaction; and
   - Identify those situations in which libraries were used.
3. Determine barriers to effective information seeking.

Our general purpose is to present the study findings in such a way that they can be easily understood by a wide variety of readers. In order to enhance the potential value of the New England study, the hypotheses given in the following section are stated in the simplified way and may possibly leave out the more precise but complicated relationships.

HYPOTHESES

This study gives rise to a number of hypotheses, the purpose of which is to provide structure and form for the process of data analysis. The

hypotheses are, in large measure, distilled from the body of research focusing on information seeking behavior noted previously. Findings of this study are discussed in great detail in Chapter 3, while discussion on the hypotheses can be found in Chapter 4, which compares our findings with those of previous studies.

A fundamental assumption of this investigation is that information seeking behavior represents an individual's reaction to the stimuli of information need, available sources, and the characteristics of the information seeker. Taken in combination, these elements will determine the nature of information seeking responses in a given context. Hence, it is a conceptualization of this study that the information seeking patterns of an individual are a determinant of that individual's information environment. This environment consists of: (a) the background and characteristics of the individual; (b) the nature and type of information need with which he or she is confronted; (c) the type and availability of information source providers; (d) source providers' capability of responding to a specific information need posed by an individual; (e) the existence of barriers that serve to diminish or deter the effective linkage between an information seeker and the source(s) capable of reducing or satisfying his/her information need; and (f) the degree of satisfaction perceived by an individual with the ability of one or more sources to respond to his/her information need. Each of these elements will be examined in the next chapter.

For the purposes of this inquiry, hypotheses will be stated in the null form. This approach enables the application of statistical tests whose purpose is to attempt to "reject" or "discard" the stated null or "test" hypotheses. Rejection of a hypothesis thus stated does not affirm the converse, yet it does

allow a basis for presumption that the stated hypothesis is false and its converse, until proven, remains possible. No inquiry of this nature can assert that something does exist, it can only prove that a stated hypothesis does not, within a specified range of probability, represent reality.

Prior investigations of information seeking behavior have noted the strength of relationships that exist between the socio-economic status of the information seeker and the success with which that person's information need is satisfied or reduced. As Dervin has succinctly noted[2] information resources are most effectively and efficiently accessed by the most advantaged members of society. It is our desire to assess the extent to which this relationship holds across a wide segment of the general population on a regional basis. To this end, measures of socio-economic status (SES) have been utilized in the course of this inquiry in an effort to ascertain their impact upon the resolution of information seeking. The three measures of SES employed in this study are: level of formal education attained; occupational status; and total annual family income. Previous sociological research[3] provides support for the utilization of these three measures as central indicators of SES.

The following test hypotheses focus upon the relationships between individual characteristics of information seekers and articulation of informational situations:

- There is no statistically significant relationship between socio-economic status (income level, level of education and occupational status) of respondents and ability to articulate situations.
- There is no statistically significant relationship between

respondents' age and their ability to articulate situations.

- There is no statistically significant relationship between respondents' geographical situs and their ability to articulate situations.
- There is no statistically significant relationship between articulation of work and non-work situations and
  - income level
  - level of education
  - occupational status
  - age level
  - geographical situs
- There is no statistically significant relationship between work and non-work situations and the socio-economic status of the respondents, namely income level, educational attainment level, and occupational status.
- There is no statistically significant relationship between work and non-work situations contexts and either age level or geographical situs of the respondents.
- There is no statistically significant relationship between number of sources utilized and socio-economic status of respondents (income level, educational attainment, and occupational status).
- There is no statistically significant relationship between either age level or geographical situs of respondent and number of sources utilized.
- There is no statistically significant relationship between either category of source(s) utilized and socio-economic status of respon-

dent (income level, educational attainment, and occupational status).

- There is no statistically significant relationship between category of source(s) utilized and either age level or geographical situs of respondents.
- There is no statistically significant relationship between utilization of the library as a source and socio-economic status of respondents (income level, educational attainment, and occupational status).
- There is no statistically significant relationship between either age level or geographical situs of respondent and utilization of library as a source.
- There is no statistically significant relationship between level of satisfaction with the source provider (including libraries) deemed most helpful and the socio-economic status of respondents (income level, educational attainment, and occupational status).
- There is no statistically significant relationship between level of satisfaction with source provider and either age level or geographical situs of respondents.
- There is no statistically significant relationship between barriers to effective information seeking and demographic characteristics.
- There is no statistically significant relationship between barriers to effective information seeking and either age level or geographical situs of respondents.

As was mentioned at the end of the section for study objectives, hypotheses have been stated in such a way that general readers can readily com-

prehend the relationships probed. Some of the hypotheses, especially those pertaining to socio-economic status, could be reworded; prior research might indicate an expected direction to the relationship. However, by doing so, the readability of the chapter and the presentation of survey findings would be affected.

METHODOLOGY

This section, which describes the methodology employed in this study, justifies the reasons for its adoption, the relationship between our approach and those of prior, similar investigations, and the limitations imposed by our approach upon validity, reliability, and generalizability of generated data. In so doing, alternative methodologies considered in the design phase of this study will be explained along with the reasons for their ultimate rejection.

The target population under study was composed of residents of the six New England states. Although this region includes wide variations in population and economic base, it might be characterized as constituting the most discrete and identifiable geo-political grouping in the northeast. A primary obstacle confronting this investigation was the development of a flexible, realistic strategy by which this diversity could be reflected in sample selection. In deciding upon the appropriate sampling approach, various techniques were considered. Since generalizability from the selected sample to the general population was desirable, non-probability sampling approaches (e.g., accidental, quota, or purposive) were rejected at the outset.

Data Gathering Technique

Among the types of survey approaches considered for use in this study (e.g., in-person interview, telephone survey, and self-administered mailed questionnaire approaches), each presented a variety of strengths and defi-

ciencies that were weighed prior to adoption of the telephone data gathering technique employed in the course of this investigation. In-person interviewing is conceptually the superior form of survey technique. This approach, enabling direct interaction between surveyor and respondent, provides for question clarification, the elaboration of responses as well as minimizing non-commital responses. Furthermore, comparisons of the relative effectiveness of different survey methodologies indicates that this approach is apt to produce the highest response rate.[4]

The primary drawback to in-person interviews is its high cost.[5] The expense involved in training and deploying interviewers in the field becomes particularly prohibitive in a study of this scope. Thus, while this approach has been successfully used in prior investigations of information seeking patterns on a regional or local level (e.g., Warner,[6] Dervin and Zweizig,[7] and Palmour, et. al. 1979[8]), both the size of the population under study and its broad geographical distribution determined that this approach would far exceed the budgetary limitations of this study.

Telephone surveying represents a variation on the in-person technique and is less expensive to conduct. Analyses of the effectiveness of the various strategies for data undertaken by the Institute for Survey Research at the University of Michigan strongly support this approach as most cost-beneficial for large scale surveys. One study, which examines the use of telephone surveying and compares telephone and personal interviewing, discusses various telephone interview techniques and the importance of random selection of telephone numbers. In brief, this study is of value to anyone undertaking telephone surveying.[9]

Previous related studies have relied upon mail questionnaires and personal interviews as the primary means for data collection. In contrast, we wanted to test another method for data collection in order to determine similarities and dissimilarities with previous studies on information use. Once telephone interviewing had been decided upon, the sampling frame included individuals over the age of sixteen residing in New England households with telephone service. The primary sampling units consisted of households meeting this specification. The sampling strategy employed in this study, therefore, was a variation of simple random sampling.[10]

A potential difficulty posed by adoption of the telephone survey lay in the identification of all household telephone numbers within each of the region's six states. Theoretically, telephone directories from every locale in the area could be gathered, but they would not provide "unlisted" or "unpublished"[11] household numbers. The New England states have a low percentage of households without telephones, as shown in Table 2-1. The second important factor in considering the desirability of telephone interviews is the percentage of unlisted numbers. Table 2-1 shows that between 11 and 25 percent of the telephone numbers in the New England states are unlisted. The average of these numbers (18.3%) is in line with the rest of the nation where the overall average of unlisted numbers is about 22 percent. Consequently, the use of telephone interviews appeared feasible without serious problems.

The problem of obtaining unlisted numbers was alleviated through the purchase of random computer-generated numbers that included within their frame all telephone numbers (personal/private, business or commercial) in each state. Since interviewers reach many numbers other than those included in the sampling frame (e.g., business telephones, non-working or inoperative

Table 2-1. Estimates of Unlisted Telephones For New England States, 1977

STATE	HOUSEHOLDS TOTAL (000's)	HOUSEHOLDS WITHOUT PHONES	TELEPHONES LISTED	TELEPHONES UNLISTED
Connecticut	1,056	0%	79%	21%
Maine	360	2%	83%	17%
Massachusetts	1,980	2%	79%	21%
New Hampshire	276	0%	85%	15%
Rhode Island	315	1%	75%	25%
Vermont	159	0%	89%	11%

SOURCE: Extracted from newsletter published by Survey Sampling, Inc. Original sources were Sales and Marketing Management, July 25, 1977 for total households, Statistical Abstract of United States: 1975 p. 534 for number of households with telephones, and Donnelly Marketing files in November 1977 for proportions of listed telephones.

numbers, and pay telephones), the research team could eliminate those that were inappropriate.

Another drawback involved in this approach is its potential for under-representation of households without telephones. To the extent that such households tend to disproportionately represent individuals with particular characteristics (e.g., low income), a cautionary note concerning the generalizability of the findings for this study may be in order.[12] This and other potential limitations upon generalizability will be discussed later in this chapter.

Sample Design and Selection

With the decision having been made that the survey methodology would be based upon telephone interviews, the sample design stage began with an investigation of various approaches to obtaining a valid probability sample of residential telephone listings in New England. Two basic approaches were available: 1) use random digit dialing, or 2) use actual assigned telephone numbers. Random digit dialing first requires the identification of all the telephone exchanges in the area of interest. The real concern about the use of random digit dialing for this project was the increased amount of interviewer time and frustration due to the many additional calls which must be placed to reach valid telephone numbers. The decision was made to use existing assigned telephone numbers assuming an acceptable method could be found.

The second approach requires some kind of compilation of existing numbers from telephone directories or special directories having telephone numbers. Without the availability of the universe of all residential telephone listings in the six states, the sample design would have to be a multi-state design with primary sampling units being identified geographical areas, e.g. counties.

This was not desirable if an existing source could be found to provide the universe of assigned telephone numbers.

Contact was made with a company specializing in providing telephone samples. Survey Sampling, Inc. of Westport, Connecticut provides probability samples of residential listings based upon files compiled by Donnelly Marketing from more than 4,500 telephone and city directories. The necessary samples were purchased from that firm.

An important study objective was the desired ability to compare survey results from individual states. Consequently, the sample design called for independent samples of equal size for each of the six New England states. Adequate statistical reliability could be obtained for most estimates from samples of 400 completed valid interviews in each state. Such a sample size should provide for estimates of proportions to within ±5 percent with 95 percent confidence; more will be said later about the meaning of this statement. Two factors had to be considered in order to arrive at the required sample size for each state: the anticipated proportion of working residential telephone numbers and the response rate. Experience has shown that a sample of about three times the desired number of completed interviews is sufficient for telephone surveys. Such a working factor allows for one-third of the sample to result in non-valid telephone numbers (non-working residential and business) and a fifty percent response rate. Samples of 1,200 telephone numbers were ordered initially for each of the six states (7,200 total), based on the requirement of 400 completed interviews in each state. However, because of the size of non-working numbers an additional 2,400 or 400 for each state, telephone numbers were requested in order to yield a total of 2,400 completed interviews. Had the primary objective of the study been the estimation of characteristics at the New England regional level, a sample smaller than 2,400 could have been used. The objective, however, was to compare responses among residents of the six states.

The samples of these telephone numbers were drawn by Survey Sampling, Inc., (See Figure 2-2 for a sample printout) using the following procedures for each state:

1. The sample is allocated to each county in proportion to each county's share of listed homes.
2. Within each county, its share of the sample is, in turn, allocated to the county's exchanges based on each exchange's share of listed numbers.
3. Within an exchange, its share of the sample is systematically selected by dividing the sample quantity (n = 1,200) into the number of eligible numbers for the sampling interview. The first number is randomly selected within the first interval and subsequent sample numbers are drawn an interval apart until the correct sample size has been obtained.

INSTRUMENT

A 16-page color coded questionnaire (see Appendix I) was carefully designed as the survey instrument used for telephone interviews.

When eligible respondents were contacted, the purpose of the investigation was presented in order to aid them in focusing on the subject at hand. It was thought that use of the word "information" early in the interview, might conjur up an overly restrictive definition of the term in the respondent's mind, and hence might artifically confine the area of information needs to a segment of the entire spectrum of such needs. Also, supplying any formal definition of the term "information" at the outset might similarly introduce a biasing effect, thus reducing response validity. To avoid use of the word "information," respondents were asked to identify whether they "...needed to find the answer to a question, solve a problem, or make a decision in two important situations..."

PAGE 1

STUDY NAME: New England Survey

JOB: 57.05

DATE: 02-JUL-79 AREA: Rhode Island

Survey Sampling, Inc.
155 E. POST ROAD
WESTPORT, CONNECTICUT (P&S)
(203) 226-7858

50

TYPE RANDOM A

	1ST ATTEMPT DATE	1ST ATTEMPT TIME	RESULTS	2ND ATTEMPT DATE	2ND ATTEMPT TIME	RESULTS	3RD ATTEMPT DATE	3RD ATTEMPT TIME	RESULTS	4TH ATTEMPT DATE	4TH ATTEMPT TIME	RESULTS
E(401)231-5110	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)231-6531	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)231-7751	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)231-9192	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)232-0912	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)245-1352	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)245-6667	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)245-4429	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)245-7486	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)245-3410	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)246-1163	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)246-0644	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)253-8535	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)253-7716	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)253-4539	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)253-5658	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)272-5814	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)272-8555	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)272-9576	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)272-4494	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)274-3237	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)274-1696	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)274-6298	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)274-7418	/	: AP		/	: AP		/	: AP		/	: AP	
E(401)274-8739	/	: AP		/	: AP		/	: AP		/	: AP	

RESULT CODES:

C-COMPLETED	D-DISCONNECTED	CB-CALLBACK	
NA-NO ANSWER	BG-BUSINESS/GVT.	T-TERMINATED	67
BZ-BUSY SGN	DL-DEAF/LANGUAGE	R-REFUSAL	

INTERVIEWER

NOTICE! This information is copyrighted. Do not copy by any process. Data loaned to clients of Survey Sampling under contractual agreement. Use of these numbers to produce additional random samples is strictly prohibited.

Figure 2-2. A Sample List of Telephone Numbers Randomly Generated

that might have occurred "... at work, at home, or elsewhere."[13]

Kerlinger and others have noted the potentially undesirable effects that maturation of subjects can have on the validity of an investigation.[14] This phenomenon is particularly dangerous when subjects are asked to recall their actions and behaviors on questionnaires at some time prior to the interveiw. Albeit with the best of intentions, subjects may omit details, fail to remember events, or unconsciously modify past events. To minimize the impact of this variable upon the study, respondents were asked to limit their responses to events occuring in the "past month or so." While the imposition of this limitation could not eliminate entirely the detrimental effects of subject maturation, and while this approach resulted in the elicitation of a larger number of situations for which solutions were still being sought than might otherwise be the case, the limitation was deemed necessary. From these discussions, it is clear that actual information needs are immersed in the situations.

Respondents indicated <u>any</u> situation which met the criteria of the definitional framework noted above. Upon their description of the situation, they were asked to define whether or not it was work related. This approach enabled the "anchoring" of information situations within either the occupational or non-occupational contexts. Responses were later categorized into broad categories similar to those used in the California study (adjustments were made for the coding of work situations): "Neighborhood;" "Consumer;" Housing and Household Maintenance;" "Employment: Getting/Changing Jobs;" "Employment: Salary and Benefits;" "Employment: Organizational Relations;" "Employment: Technical;" "Employment: Other;" "Education and Schooling;" "Health;" "Transportation;" "Recreation and Culture;" "Money;" "Public

Assistance and Social Security;" "Child Care;" "Other Family Relations;" "Personal Relationships;" "Legal;" "Crime and Safety;" "Energy;" "Current Affairs;" and "Miscellaneous."

Each situation category might potentially relate to either the occupational or non-occupational sectors of the information seeker's life situation. While one might assume that the category "Recreation and Culture" might appear predominantly in relation to non-occupational situations, conceivably this might be a concern to a person deciding whether to seek or accept a work position in another locale. Analysis of the distribution of responses and their relation to the contexts (occupational or non-occupational) of the information seeker reinforces the use of this approach, as noted in the next chapter.

For both occupational and non-occupational contexts within which respondents cite situations, the same sequence of questions was followed. This approach facilitated a parallel analysis of information seeking patterns, sourse provider effectiveness, and impact of barriers for both contexts. In other words, the questionnaire elicited both work and non-work situations.

Once respondents suggested that they sought an answer for this situation, they were presented with a list of thirteen source providers:[15]

> the respondent's "own experience;"
>
> something told the respondent by a "friend, neighbor or relative;"
>
> "something...read in a newspaper, magazine, or book;"
>
> "something...learned from someone who works for a store, company, or business;"
>
> "something...learned from a co-worker;"
>
> "something told...by a professional such as a doctor or lawyer;"

"something...learned from someone who works in government;"

"something...on TV or radio;"

"something...from a library;"

"something...found in the telephone book;"

"something...learned from a religious leader;" and

"other" sources.

The prespecified list could be collapsed into the same broad categories of interpersonal, institutional, and mass media source providers used in the California study. Information seeking patterns, therefore, could be viewed in relation to both specific and broad groupings of information source providers. As each source was read, interview subjects were asked to indicate which one(s) they had consulted in the course of information seeking. Incidentally, the prescribed list was not always given in the same sequence. The list was randomized and presented in a order predetermined on the basis of the last two digits of the respondents' telephone numbers.

This investigation probed respondents' views as to the effectiveness and helpfulness of information source providers. After identifying the source(s) consulted, respondents were asked to label the one perceived as "most helpful in getting the answer" to the question.* Upon identification of this source, they were asked a series of questions relating to its utilization. Possible motivations for initially consulting a "most helpful" source included: referral from another source, prior experience or knowledge, convenience of location, or happenstance. In the event that respondents

*No special effort was made to define "most" helpful.

indicated that they had been referred to this source, the referring source was identified; this enabled an assessment of the effectiveness of referral sources in bringing the information seeker and the appropriate information source provider together. In addition, the respondents' perceived level of satisfaction with the most helpful source was investigated, along with any disagreeable features of this source. This later element was probed through elicitation of an "open-ended" response to the question of whether respondents found anything about this source they did not like. Another indicator of source satisfaction can be found in the willingness of respondents to return for an answer to a similar question in the future. Respondents were asked whether they would return to the most helpful source and, if so, why. Responses to this item provide an opportunity to assess the positive features of this source -- features outweighing any negative factors which might have been identified.

Respondents were queried as to whether the most helpful source suggested an additional provider to which the information seeker might go for further assistance. In the event that it had, they were asked to indicate their level of satisfaction with the service provided by the source to which they were directed. In the event they failed to contact this other source, the reasons for this were likewise recorded. While one might presume that the "most helpful" source provider would be that which provided the "ultimate" resolution of the information need, the possibility of its greatest utility being a function of the linkage it provided to another source cannot be discounted.

In the next sequence of question, respondents were asked to identify from the entire range of sources they consulted, the one they considered as "least helpful."* In assessing those

*No special effort was made to define "least" helpful.

factors pertinent to the least helpful source, the identical series of items were asked of survey participants as had been with the most helpful provider. The reasons for selecting the least helpful source were obtained, as were levels of satisfaction with this source. While it might reasonably be assumed that the level of satisfaction with this least helpful source would be lower than for that which proved most helpful, the frequency and intensity of dissatisfied sentiment might be expected to vary in relation to the nature of the information need and the socio-economic characteristics of the information seeker.

Willingness of respondents to return to the source they cited as least helpful for assistance with similar questions was also probed, as was the effectiveness of this least helpful source in providing referrals. Similarly, indications of whether the respondent contacted any source suggested by the least helpful source provider were obtained, as was a determination of the level of satisfaction with the referral source, in the event the subject established contact.

A major concern of this inquiry was to measure the extent to which elements associated with access to information served to facilitate, or hinder, information seeking respondents. Five such factors were probed: "cost in money," "cost in time" required to obtain desired information, "up-to-dateness" of sought information, "accuracy" of the answer provided, and the "understandability" of the obtained answer. These five factors represent two aspects of information source selection: the economic (cost in money and time) and perceptual (recency, understandability, and accuracy). They also comprise potential barriers which inhibit the

effectiveness of source providers. Analysis of the extent to which these barriers intervene in information seeking were probed in this study.

Respondents were asked to judge which of the above mentioned factors were most and least important in attempting to answer the question, solve the problem, or make the decision. In an attempt to provide a "baseline" from which the indications as to the importance of the above cited factors could be judged, respondents were asked to compare the relative significance of: a) cost in time versus the cost in money; b) the cost in money versus the understandability of the obtained information; and c) the time it took versus the understandability of the obtained information. Undoubtedly, the importance of these several factors varies with respect to situations, the context within which the stated need was placed (i.e., occupational or non-occupational), and the socio-economic characteristics of the information seeker.

To repeat, the entire sequence of questions presented in the foregoing pages of this chapter was repeated with reference to the work and non-work context of situations. This approach thus enabled cross-comparison between occupational and non-occupational contexts, the range of sources consulted, perceived utility of sources in responding to an information yielding situation, level of satisfaction with source, level of satisfaction with referral to source, and economic and conceptual factors related to the selection of information source.

Libraries were one of the institutional source providers available to individuals. To this end, a series of questions designed to examine reasons for library use or non-use were included. Where subjects did not consult a library during their information search for either or both the

work and non-work situations, the reasons for non-utilization were collected. Coded responses to the open-ended question included the following: lack of time; inconvenience of location, hours, or parking; unsafe location of the library; inability to find what was wanted or needed for the particular information problem; the library's frequent lack of needed material; unfriendly staff; provision of incomplete service by staff; lack of a library card; lack of need for a library; respondents' unwillingness to read; the respondent failed to think of the library as a source; non-existence of a telephone reference or information service by the library; the nature of the need for which information was sought was interpersonal; the respondent had enough information from other sources; no library was available; and others. As can be seen, the self-reported reasons involved impressions or perceptions. Several of the categories suggest that respondents might not have thought of libraries in the context of their question, problem or decision.

When the library was, indeed, used, the probing process was repeated. The range of coded reasons for the open-end question included: convenience to workplace or residence; perception of the library as usually having information wanted/needed; friendly or helpful staff; happened across material while looking for other information; and availability of telephone reference service.

In order to obtain data pertinent to the socio-economic characteristics of survey respondents, the concluding section of the survey instrument probed the sex, age, residential situs (large city, suburb of a large city, medium-sized city, small city, rural/farm, rural/non-farm), level of education, occupation , income, and ethnic/racial origin of respondents.

For the investigation of the relationship between occupation and information seeking patterns, the study used the National Opinion Research Center's (NORC) Occupational Prestige Scale, revised and updated by Siegel.[16] The purpose of this scale, originally developed in 1947 by North and Holt,[17] is to enable a measurement of occupational prestige with an assurance of validity over occupational categories specified by the U.S. Buearu of the Census.

Census categories do not purport to provide a hierarchical ordering of occupations; the element of structured ordering is loosely present in the arrangement of broad categories (e.g., Professional and Technical Workers, as well as Managers and Administrators). In addition, the assignment of occupations to these categories does not reflect the actual prestige by which the American public views various occupations.

The NORC scale is designed to afford this type of prestige ranking. Beginning with the North-Holt studies in the 1940 s, and in subsequent updatings, the Center has interviewed a representative cross-section of the public in order to obtain a numeric relation index rating of prestige for over 100 major occupational categories. In accord with the relative ranking provided by the members of the cross-sectional sample, each occupation is assigned a "Prestige Index Score" between 1 (low) and 100 (high).

It was decided to utilize this method in our study due to its superiority as a measure of relative occupational prestige. This approach affords an opportunity for analysis of the relationship between occupational prestige level and information seeking behavior of respondents, in a manner similar to which other socio-economic status variables, such as income and education, are examined. A detailed breakdown of the classification scheme used for this study is presented in Appendix II.

INSTRUMENT PRE-TEST

In order to ensure clarity of items, appropriate sequencing of questionnaire elements and appropriateness of instrument length, considerable pre-testing of the survey instrument was undertaken. Each member of the research staff, over a period of ten days, duplicated conditions under which the study would take place. Individual respondents were randomly selected from telephone directories for the Boston, Massachusetts area, and were administered preliminary drafts of the questionnaire. Both during the course of interviewing and in the summary de-briefing sessions that followed with each respondent, items lacking in sufficient precision, clarity, and structure were noted. This feedback provided the basis for modification and alteration of the drafts of the instrument into the final questionnaire. The research team supervised two days of interviewing by the first interviewer hired. The results were not incorporated into the 2,400 completed surveys, but provided the basis for additional evaluation and modification of the questionnaire. In addition to providing insight into the suitability of the instrument itself, the process of pre-testing afforded the opportunity to anticipate potential respondent objections to participation in the survey and enable estimation of response rate among potential participants in the actual survey phase of this inquiry.

During and after the pre-test phase, completed questionnaires were edited and coded, again replicating as closely as possible the actual field conditions under which the study would take place. By so doing, potential coding and classification difficulties could be anticipated. The pre-test phase thus enabled modification to be undertaken that would minimize

such points of difficulty. In addition, insights gained from this procedure enabled research staff to identify potential problem areas for interviewers during the actual survey phase. As a direct result, more effective modes of interviewer orientation and training were developed and implemented.

DATA GATHERING PHASE

This section examines the actual implementation of telephone interviewing techniques during the data gathering phase. More precisely it looks at the selection and training of interviewers, use of techniques for increasing response rate, establishing interview procedures, and the coding and editing of survey instruments. Early in the project, a research associate was hired to coordinate and unify the data gathering phase of the study. The direct, daily contact between the research and interviewing staff provided the necessary supervision and "as-needed" training required of interview staff.

Individuals were selected as interviewers who has a background related to, and an interest in, the outcome and objectives of this project. Pursuant to this, a particular effort was made to hire as interviewers students enrolled in the Graduate School of Library and Information Science or recent graduates of the program.

HIRING

Library science students comprised the majority of non-professional interviewers. During the first month of operation, six interviewers were hired: two recent library school graduates, two library school students, and two undergraduate students with library work experience. Although library experience was not specified as a requirement, interviewers with a library background had an advantage over those without because they could

more readily grasp the purpose and language of the survey instrument. Potential interviewers were also screened for self-confidence, poise, self-expression and empathy.

The number of interviewers was expanded to a maximum of 30 during August and September of 1979, when telephone surveying extended to several states at the same time. When scheduling presented problems, members of the research staff participated in the interviewing process as well.

TRAINING

Each interviewer underwent two programs of training: initial orientation and follow-up training. During the initial orientation, the research associate, with the participation of one or more of the senior research staff, explained the goals and objectives of the inquiry, and introduced the interviewer manual. The newly-hired interviewer was then "walked through" the questionnaire, item by item, and given an explanation for the sequencing of items and the structure of the instrument.

Trainees, in this orientation phase, were then given the opportunity to observe actual interviews. Effective telephone interview techniques were explained, and trainees were encouraged to indicate areas which were unclear. As a final state of the orientation process, interviewers were observed as they first conducted interviews with eligible respondents; afterwards, suggestions were made for addressing any weakness in their approach.

The second phase of training consisted of on-going monitoring of interviewer performance, productivity, and effectiveness. This assessment was the primary responsibility of the research associate and was participated in by research staff members. Levels of productivity were monitored daily. The number of completed interviews and the number of refusal were

recorded during each interviewer shift. On the average, four to six surveys by each interviewer were conducted per four-hour shift. With the addition of more telephones, output increased from 15-20 to 45-50 interviews per day. Some interviewers were occasionally able to obtain seven to ten interviews per shift.

Completion rates were definitely influenced by environmental factors For example, during the heat wave of July and August, 1979, the refusal rate for participation was high. Interviewers evidenced adverse reactions to prolonged periods of work. They found it necessary to take periodic work breaks. An incentive program of bonuses, along with encouragement from the research staff and countdowns of numbers of interviews left per state posted on the bulletin board, served to stimulate output.

CODING AND EDITING OF SURVEY DATA

Each questionnaire went through a multiple process of coding and editing prior to data tabulation and analysis. Upon completion of each interview, individual surveyors rechecked the instrument for completeness, comprehensibility, and overall accuracy. These questionnaires were then examined by the research team for purposes of observing potential problems encountered by interviewers. All deficiencies were called to the attention of the individual interviewer. If necessary, respondents were even recalled.

Each questionnaire was then prepared for final coding and keypunching, in accord with the specification of the coding manual; a sample section is included in Appendix III. Open-ended items were coded, and inconsistencies arising from the recording of responses by interviewers were rectified. The advantages of assigning one member of the senior project staff to this task were two-fold: subjectivity between coders could be ultimately eliminated in the preparatory stage, and an opportunity was afforded for the senior staff to monitor, unobtrusively, the quality and production levels

of the interview staff. The feedback provided by this approach enabled rectification of difficulties before they posed a serious threat to survey data validity.

Completed survey instruments were grouped by the state of residence, the number of situations articulated by participants, and the date and time in which the interview was completed. Questionnaires were then forwarded to King Research, Inc. in Rockville, Maryland[18] for final coding and keypunching preparatory to data analysis.

RESPONSE RATES

Procedures were instituted to monitor the number of completed interviews with male and female respondents. Although telephone calls were scheduled for evenings and weekends, it was anticipated that the proportion of interviews with males and working females might be lower than the actual proportion in the total population.

The data gathering phase of this inquiry extended over a twelve-week period from July 16, 1979 to October 9, 1979. Table 2-2 reports the number of telephone numbers used, the number of valid working numbers, and the response rate by state. The overall response rate was 40 percent; the range was from a low of 36 percent for Connecticut to a high of 45 percent for Maine. As a check on the representativeness of the final sample, selected demographic characteristic of the respondents were compared to the same characteristics for the whole population. These

Table 2-2. Response Rate by State

State	Telephone Numbers Used	Valid Working Numbers*	Completed Interviews	Response Rate (%)
Connecticut	1,565	1,254	457	36
Maine	1,417	1,161	520	45
Massachusetts	1,383	1,114	452	41
New Hampshire	1,551	1,261	478	38
Rhode Island	1,524	1,217	485	40
Vermont	1,494	1,174	510	43
Total	8,934	7,181	2,902**	40

*Excludes non-working and business numbers.

**The total includes the 2,400 respondents who articulated at least one work and non-work situation, and 502 individuals who were willing to participate in the study but were unable to articulate a situation. Chapter 3 contains an analysis of the 502.

checks compared the education, age, sex, and race distributions of the sample to the population, as reported by the U.S. Bureau of the Census, for each state. Census data were available on education as of 1976, age as of 1977, sex 1970, and race 1975.

ANALYSIS

The Statistical Package for the Social Sciences (SPSS) was used for analysis of the data. King Research, which did the computer programming in light of the coding specifications, arranged for computer facilities close to its Maryland office. For the purposes of analysis, data were grouped in the form of frequency distribution and bivariate analysis (crosstabs). The comparisons of the sample and the total population for each state resulted in the decision to weight the results in terms of education level. Respondents tended to be higher educated than the population indicated in 1976. Consequently, the respondents with high school education or less were assigned weights ranging from between 1.2 and 1.5 to overcome the undersampling of this group. Table 2-3 shows the assigned weights by state for the three education levels.

Sampling Errors

Sampling error is defined as the difference between a sample estimate and the result that would have been obtained had the entire population been used with the same survey procedures. It is important to understand what sampling error includes, and what it does not include. Sampling variation is only one source of error in survey results. Broadly speaking, survey errors can be classified into three categories as follows:

- Coverage errors
- Measurement errors
- Sampling errors

TABLE 2-3 SAMPLE WEIGHTING FACTORS

State	Technical/Vocational and High School and Less	Some College	College Graduate and Above
Connecticut	1.5	.8	.5
Maine	1.2	.8	.6
Massachusetts	1.5	.8	.5
New Hampshire	1.5	.8	.6
Rhode Island	1.4	.7	.6
Vermont	1.2	1.1	.6

Coverage errors result from inadequate sampling frames and low response rates. Measurement errors are due to faulty quesionnaires; poor quality interviewing; poor respondent recall; and mistakes in editing, coding, keypunching, and analysis. Sampling error is basically a function of sample size, and in the case of small populations, the relation of the sample size to the population.

For surveys of the type in this study, the non-sampling errors may exceed the sampling errors because of the complexity of the questions being asked of the respondent. Unfortunately, the non-sampling errors are not measurable except at very high costs to conduct follow-up studies of the non-respondents and the validity of the survey instruments and procedures.

Table 2-4 can be used to determine the estimated sampling error in terms of sample size and the estimated proportion of the sample having a specified characteristic. The use of Table 2-4 can be demonstrated by an example. Assume that the survey found that eight percent of 210 respondents with a specified level of education from one of the states used libraries as a source for information. What is the sampling error associated with the estimate of eight percent? From Table 2-3, using the column for 200 as the base and the row corresponding to 10 or 90 percent, the approximate standard error is 2.1 percent. The sampling error is twice the standard error or 4.2 percent. The statement can be made that the chances are about 19 out of 20 (95%) that the difference between the estimate of eight percent and the estimate which would have resulted if the entire state population had been interviewed using the same procedures is less than 4.2 percent. In other words, the odds are about 95 out of 100 that the population value is eight percent ±4.2 percent, or lies in the range of

TABLE 2-4: APPROXIMATE STANDARD ERROR OF ESTIMATED PERCENTAGE FOR SUBSETS OF THE TOTAL POPULATION

Estimated Percentage	Base of Percentage								
	50	100	200	300	400	800	1,200	2,000	2,500
2 or 98	2.0	1.4	1.0	0.8	0.7	0.5	0.4	0.3	0.28
5 or 95	3.1	2.2	1.5	1.2	1.1	0.7	0.6	0.5	0.43
10 or 90	4.2	3.0	2.1	1.7	1.5	1.0	0.8	0.7	0.6
25 or 75	6.1	4.3	3.0	2.5	2.1	1.5	1.2	0.9	0.8
50	7.1	5.0	3.5	2.9	2.5	1.7	1.5	1.1	1.0

3.8 to 2.2 percent. The table can be used in a similar fashion as a guide to the statistical precision (measure of sampling error) of any estimate resulting from the survey.

LIMITATIONS TO THE STUDY

Since generalizability is to a large degree a function of methodology and all methodologies - like all people - are flawed in some way, no study can aspire to complete accuracy. At best, misleading elements are copiously and carefully minimized. Factors related to this study that may potentially serve to reduce generalizability of results may be categorized as threefold: (a) those related to methodology; (b) those concerning implementation; and (c) those involving analytical interpretation. Potential limitations in each of these categories are discussed below:

Methodological Limitations

1. The approach undertaken in this study was that of survey research where representativeness is a direct function of the validity of responses provided to an interviewer. As in previous investigations of information seeking behavior, this inquiry was unable to verify replies from self-reporting survey respondents. Thus, accuracy relies upon the assumption that individual respondents will recall fully and accurately their information seeking strategies and needs. The imposition of the time frame within which respondents were asked to recall their behavior (e.g., one month or less) provided a check against the danger of "subject maturation" as noted previously; nonetheless, in the absence of verification procedures to determine whether respondents consulted the sources they indicated, generalizability is largely a creature of the veracity of self-reporting survey respondents.

2. The questionnaire employed was lengthy and at times complex, even after thorough pre-testing and subsequent instrument modification. The care taken to avoid potentially unfavorable effects of mentioning the words "information" or "library" early in the interview may have made it difficult for certain respondents to focus their answers with the scope of the study. Response rates may have been affected as a result through the refusal of some respondents to participate due to imperfect understanding of the nature of the study.

3. This chapter has previously noted the methodological benefits of utilization of the telephone approach for a study of this type. Nonetheless, there remain two potential drawbacks to adoption of this methodology. Households without telephones are necessarily excluded from the sampling frame; to the extent that household non-subscription to telephone service is highly correlated with certain characteristics of individuals (e.g., low income), respondents with those characteristics would be under-represented in the sample. The budgetary constraints within which this investigation took place render unfeasible the employment of a "multi-method" approach by which responses obtained through utilization of this interviewing approach would be combined with those of other methods (e.g., in-person interviewing). Whether, in fact, data variations generated through the employment of two or more approaches would become manifest remains unclear and needs to be further explored. This investigation is less generalizable to the total population than either the California or Baltimore studies. This point must be remembered by anyone attempting further telephone interviewing.

4. The purpose of this study was to ascertain the information seeking patterns of individuals when confronted with a situation for which they sought a solution. Similarly, it has attempted to probe the degree to which these individuals perceived the sources consulted as effective or as ineffective. This inquiry does not analyze, however, the sequence in which information seekers utilize sources. Hence in probing sources labeled "most" or "least" helpful by respondents, insufficient attention may have been directed to those sources playing an intermediate role in the process of linkage. As a result, certin sources may have been widely utilized during the information seeking process but because they did not provide the "ultimate" resolution to the stated need, they have appeared to be of minor significance in the effectiveness assessment provided by this instrument.

Implementational Limitations

1. Any investigation of this nature must employ a large number of interview staff. Regardless of the measures undertaken to ensure the maintenance of a high level of quality in staff productivity and performance, individual interviewers will inevitably vary. As generally expected, some interviewers functioned more effectively in probing situations, handling the complexities of the questionnaire, and in establishing a rapport with the respondent. To the extent that this factor affected respondent participation in the study, generalizability of findings will doubtless suffer.

2. During the initial weeks of interviewing, factors extraneous to the methodological design of the inquiry could have served to reduce response rate. A heat wave during the final weeks of July created uncomfortable conditions for both the interviewers and respondents. It is conceivable

that this had an effect of rendering communications more difficult and making some respondents unwilling to participate in the study until meteorological conditions were more favorable. Similarly, the timing of the interviews may have resulted in the failure to contact respondents who were on vacation. To the extent that the ability to undertake such travel is related to the economic status of respondents, representativeness of generated data may have been affected. If these limitations are operative, the greatest impact would be on data gathered from Massachusetts; the first month of interviewing (July) focussed exclusively on this state.[19]

3. The commitment of interviewers to the success of the project varied. Certain members of the interviewing staff displayed considerable interest in the outcome of the survey; as a result, their level of productivity was usually high. Others proved less concerned, demonstrating a diminished output. The less interested interviewers voluntarily resigned or were terminated, resulting in a relatively high turnover rate, especially during the beginning weeks of the data collection phase. The resulting disruption, undoubtedly, also affected the response rate adversely.

Analytical Limitations

The conceptual framework of an investigation imposes limitations upon analyses and interpretations. The following points sould be remembered while considering the display and interpretation of data:

1. The conceptual approach of this study was to afford the context in which participants could discuss what they wanted to know and how they gathered information. This was accomplished through the mechanism of dividing situations into occupational and non-occupational contexts. To a certain degree, these categories are artificial. Many information needs can be viewed from either

perspective; separation of the two contexts is not as simple as the conceptual model may imply. Certain respondent groups (e.g., retired individuals, those not working and housewives) are more likely to suggest non-work situations. They may not regard their present activities as applicable to a work-related category.

2. Individual respondents may have failed to interpret the listing of information source providers as a discrete set of entities. One may have conceivably indicated utilization of several sources when in fact, these comprised one and the same provider (e.g., a friend, co-worker and someone working for a business may all have been indicated inaccurately as separate sources consulted). Hence, there may be a tendency to over-report source utilization to the extent this phenonemon is operative.

3. Finally, there are important areas of consideration that were outside the scope of this investigation. One such element was the impact of particular sources on the larger "quality of life" of the respondents. It was our intent to describe the information seeking patterns of individuals, rather than evaluate the ability of sources to provide information. Many situations raised by participants may not have been addressable by particular sources; conversely, the primary utility of particular sources may lie in areas other than those identified by respondents in the course of responding to the interview.

NOTES

1. White House Conference on Library and Information Services. Issues and Resolutions: A Summary of Pre-Conference Activities. Washington, D.C.: National Commission on Libraries and Information Science, 1979. pp. 5-8.

2. Brenda Dervin, "Information needs of urban residents: a conceptual context" in Edward S. Warner, Ann D. Murray and Vernon E. Palmour, Information Needs of Urban Residents. Baltimore, MD: Regional Planning Council, 1973. (ED 088-464)

3. Karyl Atherton, An Exploratory Analysis of Some Indices of Socioeconomic Status. Berkeley, CA: University of California, Institute of Human Development, 1958; and E.L. Warner, Marchia Meeker, and S.K. Eells, Social Class in America. Chicago: Science Research Associates, 1949.

4. Earl R. Babbie. The Practice of Social Research, Belmont, CA: Wadsworth Publishing Co., 1975. pp. 268-269.

5. Ibid., p. 275.

6. Edward S. Warner, Ann D. Murray and Vernon E. Palmour, Op. cit.

7. Brenda Dervin, et. al., The Development of Strategies for Dealing with the Information Needs of Urban Residents. Seattle, WA: School of Communication, University of Washington, (U.S. Office of Education, Office of Libraries and Learning Resources, Project No. LO035JA.) Phase I: Citizen Study, April 1976 (ED 125-640); Phase II: Information Practitioner Study, February 1977 (ED 136-791); Phase III: Applications, November 1977 (ED 148-389).

8. Vernon E. Palmour, et. al., Information Needs of Californians: Technical Report. Rockville, MD: King Research, Inc., 1979.

9. Robert M. Grover and Robert L. Kahn, Surveys by Telephone. New York: Academic Press, 1979.

10. For a pertinent discussion of simple random sampling see, Herbert Arkin and Raymond R. Colton. Tables for Statisticians, 2d ed. New York: Barnes and Noble, 1963. pp. 22, 145.

11. "Unlisted" numbers are those neither published nor made available through directory assistance; "unpublished" numbers, while not published in telephone directories, are available through directory assistance.

12. Zweizig successfully used a telephone survey to study predictors of library use; comparison of the residents with census data, however, indicated that less educated adults were under represented. Douglas L. Zweizig, "Predicting amount of library use: an emprical study of the role of the public library in the life of the adult public," Ph.D. dissertation, Syracuse University, 1973.

13. See Appendix I for a copy of the questionnaire.

14. Fred N. Kerlinger, Foundations of Behavioral Research, 2d ed. New York: Holt, Rinehart and Winston, 1973.

15. The list was adopted from those specified in Palmour, et. al., Op. cit.

16. Paul M. Seigel, "Prestige in the American occupational structure," unpublished Ph.D. dissertation, University of Chicago, 1971.

17. National Opinion Research Center, "Jobs and occupations: a popular evaluation," Opinion News 9: 3-13 (September 1, 1947).

18. King Research Inc. participated in the formulation of the research design, data coding and tabulation.

19. We concentrated che first six weeks on Massachusetts respondents, but after the first month of interviewing we began the interviewing process for the other five states.

CHAPTER 3

ANALYSIS OF STUDY RESULTS

Whereas previous chapters have given the study framework, its purpose and setting, this one presents, in a descriptive manner, the findings gleaned from those 2,400 interviews conducted in the six New England states. The remaining chapters will compare our findings to previous studies as well as explore data implications.

For the purpose of analysis, the Statistical Package for the Social Sciences (SPSS) was used. Descriptive data are grouped by frequency distributions and percentages, and displayed through tables and figures in both this chapter and the appendices. The chi-square test was used to determine statistical significance in relationships between variables. For example, it was useful for analyzing relationships between demographic variables as well as for investigating possible state differences. Although the Spearman Rank Order Correlation Coefficient and other non-parametric analyses were performed, these results are not reported unless they make a significant impact upon the findings presented in this chapter. In testing the significance of relationships involving demographic and state variables, the level of significance was set at 0.05. Non-statistically significant relationships were identified and those pertinent to the discussion have been incorporated into this chapter.

Some data generated by an investigation of citizens' information needs may be vague and imprecise, due to the fact that many people have neither

consciously thought about nor verbalized information needs. Some survey respondents such as older citizens and certain university groups, encounter difficulty even in basic problem articulation - the initial step in the interview process. As previously discussed, information needs, which can be difficult to quantify, must be measured through information-seeking or information-using situations. Because of this, the researchers realize that they are not describing information needs per se but, rather, the context in which people address information needs.

The results of the analysis of the data collected are given in two main sections. The first of these reports background characteristics of survey respondents. The second section analyzes survey responses and the light they shed on hypotheses generated for this study. In general, data relationships are analyzed in terms of basic variables: sex, age, residential situs, occupation, education, income, race and state. While providing an overview of information seeking patterns and source providers, this chapter concentrates on the role of the library as an information provider.

RESPONDENTS' DEMOGRAPHICS

Demographic characteristics of respondents were compared to 1970 census data published by the U.S. Bureau of the Census and to population estimates as reported in Statistical Abstracts of the United States. Much of the published census data are grossly out-dated and do not detail population changes of the 1970s; the researchers are preparing this report prior to the release of 1980 census data. Thus, they were forced to regard statistical estimates as approximations of present figures. The accuracy of a study such as this one is squarely dependent upon polling a group of individuals representative of the community as a whole.

Sex

Figures 3-1 and 3-2 provide the sex distribution within each New England state, from both 1976 census data and our own study. Our survey results showed that the percentage of male respondents ranged from 41.6 to 45.8, averaging 44.5. With female respondents, the percentages varied from 54.5 to 58.4, with the average being 55.4. Comparison of those percentages to the total male and female population for 1976 population estimates distributed by the U.S. Bureau of the Census indicates no statistically significant difference. The largest discrepancy between survey distribution and those for the census data is for New Hampshire. The sex distribution for this state, however, failed to alter significantly the findings of the chi-square test.

These considerations are of primary importance since survey subjects were selected on the basis of sex and occupation, with the intent of constructing as representative a survey group as possible. The larger portion of interviewing hours during the day time tended to attract more respondents from the group of housewives.* As discussed in Chapter 2, the research endeavored to limit the number of housewives participating, and to examine other occupational as well as non-occupational situations.

Occupation

Occupations have been classified according to the scheme developed by the NORC which was explained in Chapter 2 and in Appendix II.
For the purposes of this study, the categories of retired persons, unemployed

*Undoubtedly some men stay home and assume the role of househusbands. However, during the survey phase, the research team did not encounter a significant number of househusbands, to make it necessary to report such a category in this chapter.

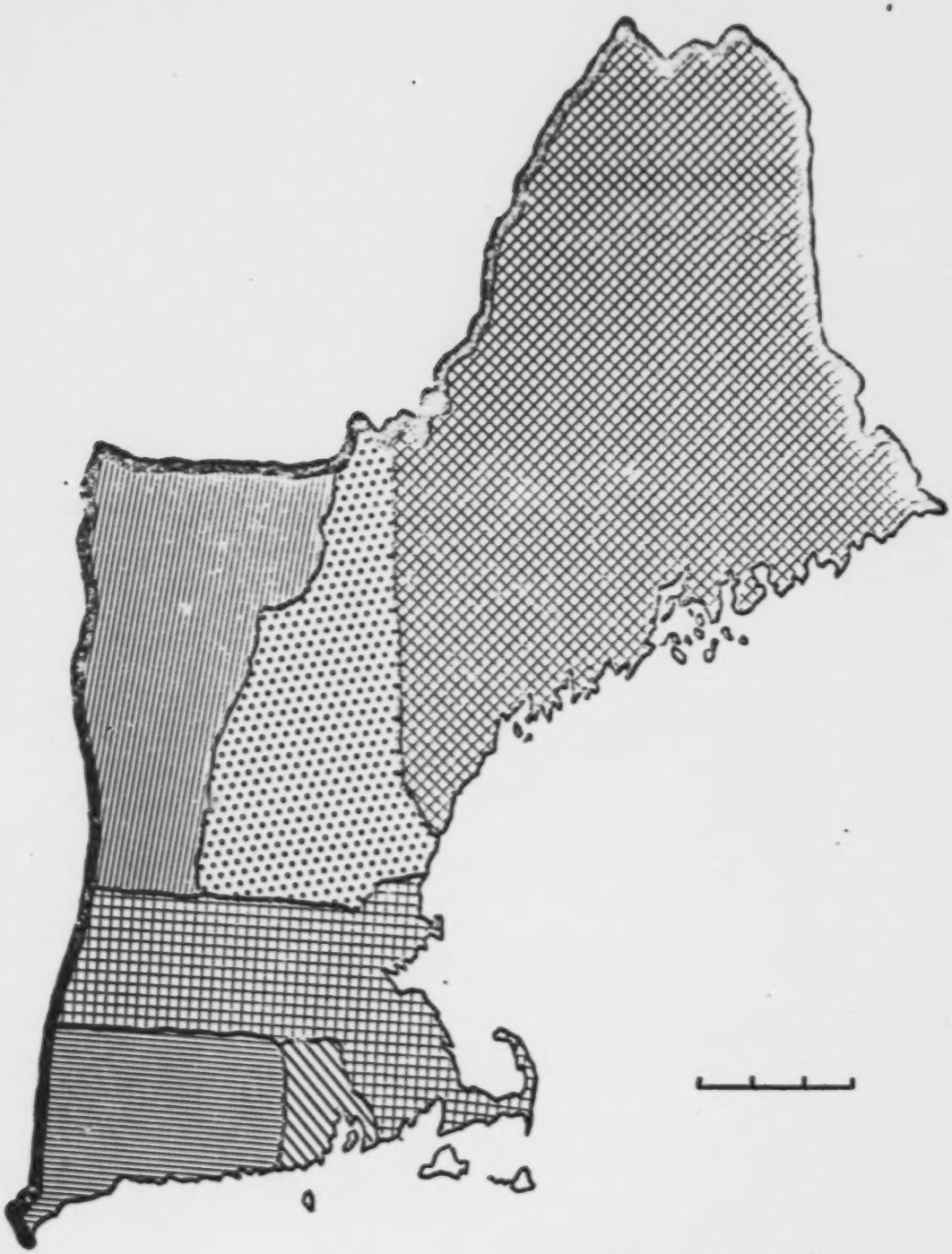
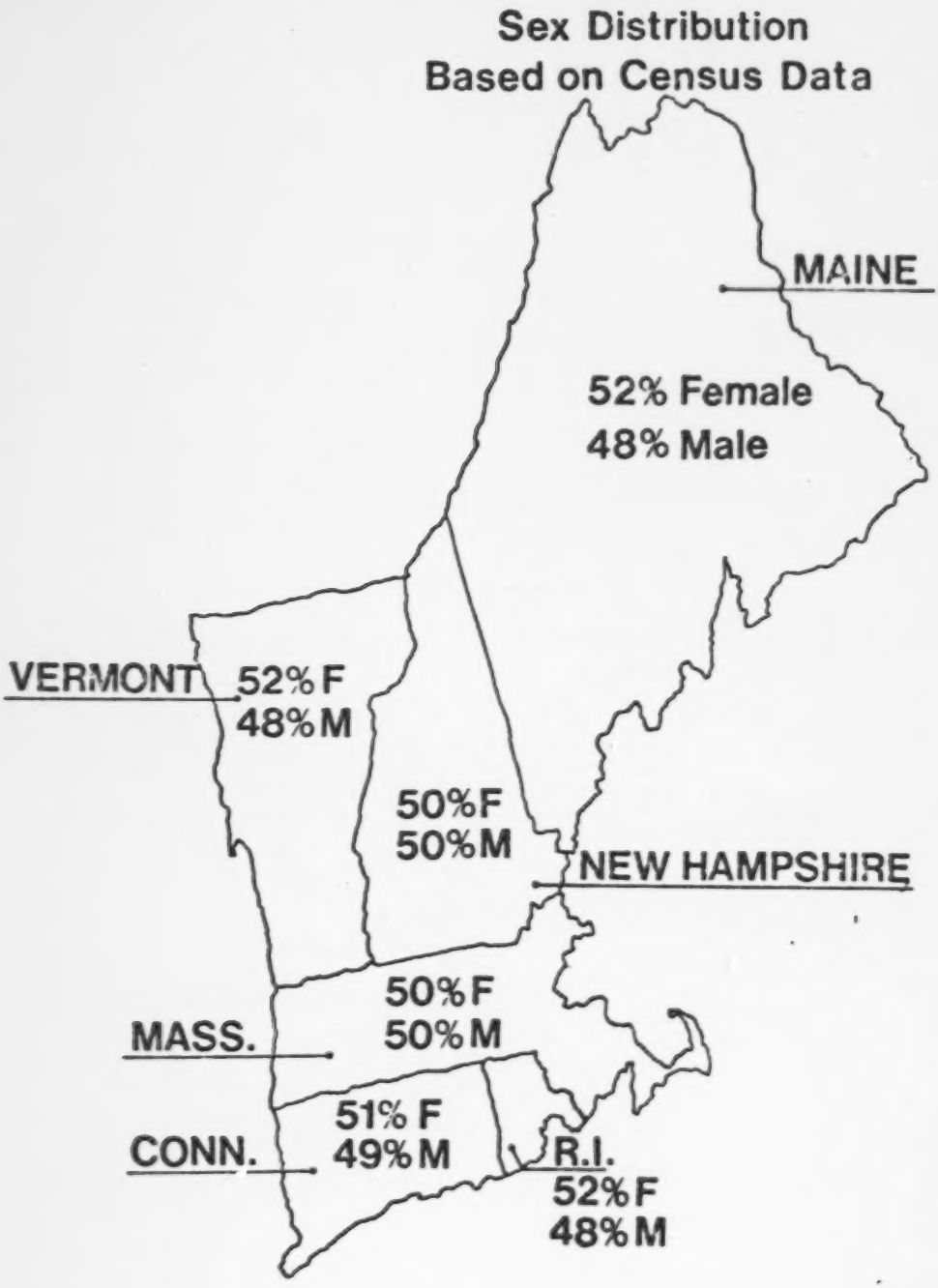


Figure 3-1.



Transpose these figures to the shaded figure with Mass., Conn., R.I. Spelled out

Figure 3-2.

Survey

Sex Distribution For Respondents

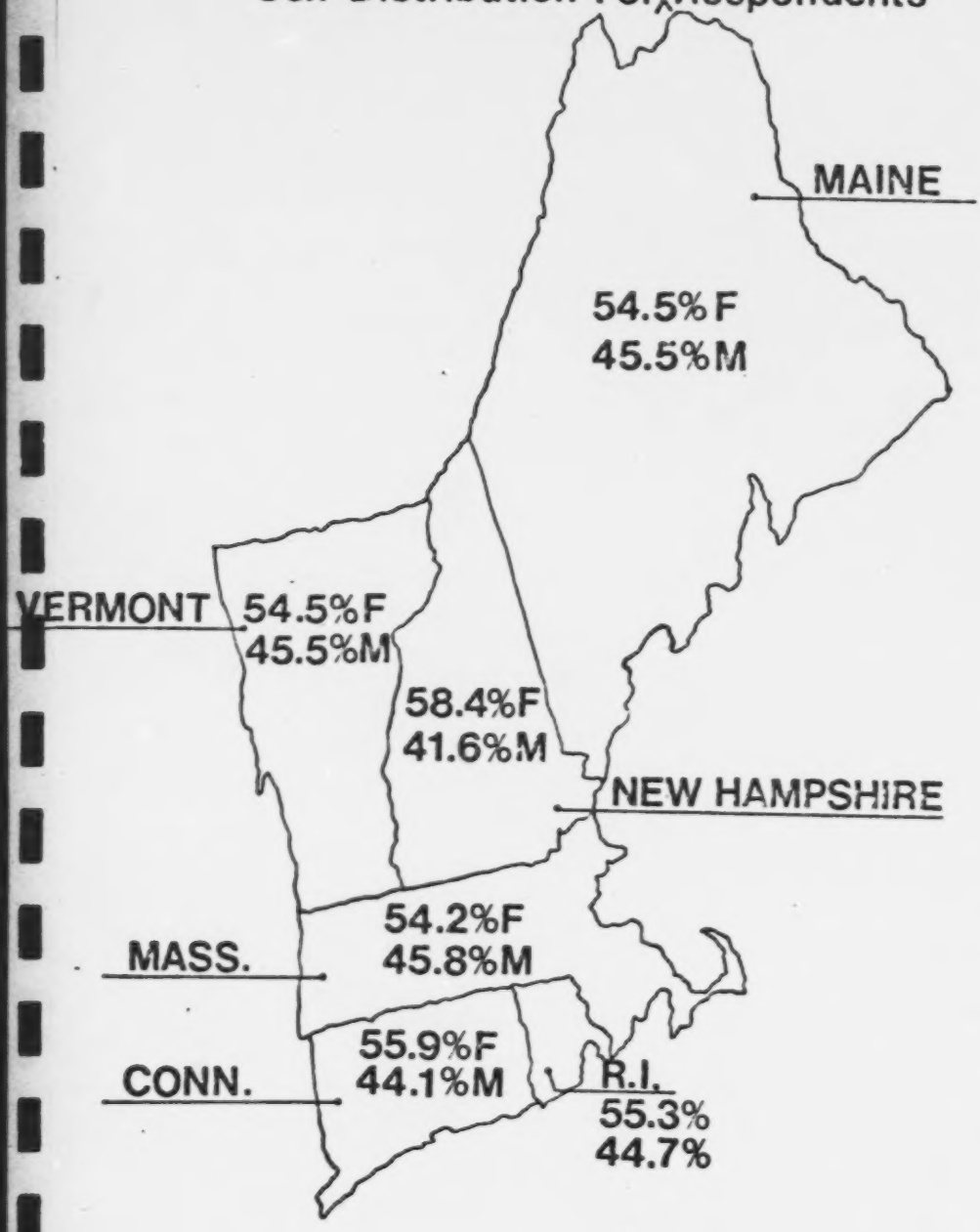


Table 3-1. Respondents by Occupation

Occupational Groupings*	Percent of Total Situations
Professional and Technical Workers	17.4
Managers and Administrators (except farm)	7.9
Sales Workers	7.5
Clerical and Kindred Workers	14.2
Craftsmen and Kindred Workers	11.7
Operatives (except transport)	4.6
Transport Equipment Operatives	1.2
Laborers (except farm)	3.0
Farmers and Farm Managers	.6
Farm Laborers and Farm Foreman	.4
Service Workers (except private household)	9.9
Private Household Workers	.5
Retired People	5.3
Students	5.8
Unemployed	2.9
Housewives	7.0
Total:	99.9

* The occupational categories have been adapted from Paul M. Siegel, "Prestige in the American Occupational Structure," Unpublished Ph.D. dissertation, University of Chicago, 1971.

Table 3-2. Respondent Age by State (%)

	16-24	25-34	35-44	45-54	55-64	65 + over	Total %*
Connecticut	17.2	25.9	20.9	18.0	11.4	6.6	100
Maine	23.1	30.6	18.4	11.2	10.4	6.2	100
Massachusetts	19.5	31.9	18.3	14.1	10.3	5.9	100
New Hampshire	23.4	30.9	17.7	15.2	7.5	5.2	100
Rhode Island	23.1	31.3	20.6	13.2	8.0	3.7	100
Vermont	20.9	34.5	19.4	7.3	11.3	6.5	100

*Numbers are rounded to the nearest whole number.

persons, students, and housewives were added. Table 3-1, which gives the occupation of respondents, indicates a wide distribution of occupational groups. Analysis of those occupational groups, state-by-state, indicates a similar distribution. Farmers and farm workers comprised only a relatively small percentage of the total respondents even in states, such as Maine, New Hampshire, and Vermont, with large rural populations. Since these occupational groups are underrepresented, the findings cannot be said to fully reflect the type of situations they might describe.

Age

Age distribution of respondents ranged from sixteen to over sixty-five years of age. As shown in Table 3-2, the number of respondents in the category of sixty-five and over was exceedingly small. For instance, the percentage of respondents in the category of sixty-five and over ranged from 3.7 in Rhode Island to 6.6 in Connecticut; the average for the remaining four states was 5.9 percent. In comparison, the population estimates placed the percentage range of elderly people from 11.2 in Connecticut to 12.8 in Rhode Island; the average for other states at 11.5. As will be explained later in the chapter, a major problem was that elderly people expressed difficulty in articulating situations over the telephone for prolonged periods of time. They frequently could think only of non-work situations and expressed health related problems as barriers to completion of the survey.

It should be noted that the age categories in the table do not exactly correspond to those of the census data. The category used by the census prescribed the age of 17 as the dividing line; the survey's equivalent group was defined as 16-24. Comparison of the age of respondents to 1978 population estimates from the U.S. Bureau of the Census would suggest that survey

respondents comprised a somewhat younger group than the population as a whole.

Even though age was not a primary criterion for the selection of survey subjects, it was adjusted in the final computer analysis so that the individual responses of those sixty-five years of age and over would carry greater weight and be more representative of people in that age group.

Income

Table 3-3 provides family income of respondents. A comparison of our data to those of 1975 estimates reported by the U.S. Bureau of the Census indicates that respondents were, for the most part, representative of the population for individual New England States. Approximately half of the respondents from the states of Connecticut, Maine, Massachusetts, and Rhode Island were represented within the median family income specified by the census estimates. Viewed from another persective, our results show that 54.2 percent of Connecticut respondents had family incomes within the $15,000-20,000 range; the median for the census data was $16,244. Some 49.3 percent of the respondents from Maine had incomes no higher than $15,000; the median family income reported by the census was $11,839. In Massachusetts, 60.4 percent of the respondents suggested incomes no higher than $20,000; the median family income reported by census data was $15,531. In Vermont, 54.8 percent of the respondents suggested incomes not exceeding $15,000; the median family income suggested by census data was $12,415. The percentages of respondents falling within the census salary range for New Hampshire and Rhode Island were lower than those in the other states (43.2% and 40.2% in comparison to census median family incomes of $14,258 and $14, 530 respectively). Adjustment for inflation would suggest that respondents for these two states were similar to the population.

Table 3-3: Respondent Income By State (%)

	Less Than $5,000	$5,000 - 10,000	$10,000 - 15,000	$15,000 - 20,000	$20,000 - 25,000	More Than $25,000	Total %*
Connecticut	4.7	12.3	17.3	19.9	13.7	32.2	- 100
Maine	7.0	20.3	22.0	20.6	11.0	19.2	- 100
Massachusetts	10.9	10.0	18.1	21.4	14.5	25.1	- 100
New Hampshire	6.1	18.0	19.1	21.1	18.6	17.2	- 100
Rhode Island	5.7	15.0	19.5	25.8	14.7	19.3	- 100
Vermont	9.0	20.2	25.6	19.9	10.4	15.0	- 100

*Numbers are subject to rounding

Racial/Ethnic Origin

Table 3-4, which examines the racial/ethnic origin of respondents, indicates a heavy emphasis on Caucasians, with other groups comprising only small percentages. Comparing these data to those of 1976 population estimates of the U.S. Bureau of the Census indicates that no statistically significant differences prevail. The population for each state consists primarly of Caucasians. The Portugese representation may seem high to people unfamiliar with the New England area, but this group comprises an important segment of the New England population, specifically for the states of Massachusetts and Rhode Island.

Education

Table 3-5, which presents data by education, does not produce statistically significant differences with census data. Regardless of the state, the majority of residents had, on the whole, advanced beyond a high school education. People having at least some college or vocational/technical training beyond high school comprised the largest proportion of the survey population.

Residential Situs

Table 3-6 shows the residential situs of respondents by state. Respondents from the states of Maine, New Hampshire, and Vermont were primarily from rural areas, whereas the proportion of respondents from rural areas was significantly less for the other, more urban states. At this point, it might be useful to provide the following definitions:

1) urban - - - large city, suburb of a large city, or medium size city (suburb and non-suburb), with population over 50,000.

2) small city - 25,000-49,999 population

Table 3-4. Respondent Race by State (%)

	Black	Caucasian	Hispanic	Indian	Asian	Portuguese	Other	Total %*
Connecticut	4.2	92.3	1.6	.8	.3	.3	.5	100
Maine	.2	96.3	.5	1.7	.2	.5	.5	100
Massachusetts	2.3	91.2	.5	.8	---	1.8	3.4	100
New Hampshire	.5	97.0	.8	.8	---	.3	.8	100
Rhode Island	2.0	93.5	.3	.5	---	1.5	2.3	100
Vermont	.5	96.2	.3	1.3	.8	---	1.0	100

*Numbers have been rounded to the nearest whole number.

Table 3-5: Respondent Education By State (%)

	Less than High School	High School Graduate	Technical or Vocational	Some College	College Graduate	Post-Graduate Studies	Total %*
Connecticut	9.6	26.4	6.0	22.5	21.2	14.7	100
Maine	10.6	31.2	9.2	20.3	19.6	8.9	100
Massachusetts	8.4	28.7	4.1	22.3	21.6	15.0	100
New Hampshire	10.5	28.0	5.8	26.5	21.0	8.3	100
Rhode Island	12.4	30.7	5.4	23.3	16.1	11.6	100
Vermont	9.3	32.3	5.3	20.3	18.5	14.5	100

*Numbers are subject to rounding

Table 3-6. Residential Situs by State (%)

	Urban	Small City	Rural	Total %
Connecticut	38.7	23.9	37.4	100
Maine	13.3	14.4	72.3	100
Massachusetts	35.7	19.8	44.5	100
New Hampshire	24.2	5.1	70.7	100
Rhode Island	41.8	17.9	40.3	100
Vermont	11.8	0	88.2	100

*Numbers are subject to rounding

3) rural - - - cities under 25,000, farms, or open country.[1]

Figure 3-3 collapses the three categories across states and seems to show a heavy overall emphasis on respondents from rural settings. However, since these categories are not compatible with those of the census data, no meaningful statistical comparison can be made at this time.

The findings as to residential situs reflect general similarities to 1970 census data. Complicating interpretation, however, is the fact that census categories and our definitions of the three categories do not correspond exactly.

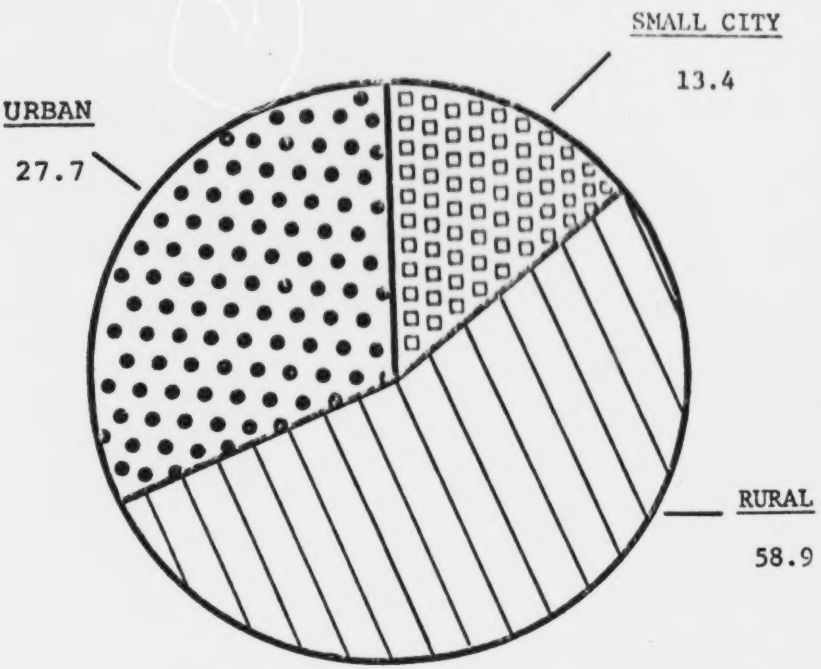
Situation Articulation

Households were selected for investigation from a computer-generated list of randomized telephone numbers. As previously explained, respondents were monitored on a daily basis to ensure representation of male and non-housewife respondents. In retrospect, residential situs might have been accorded more attention in the sampling frame. Furthermore, an examination of occupation groups indicates that farmers and farm workers comprise only a small percentage of respondents.

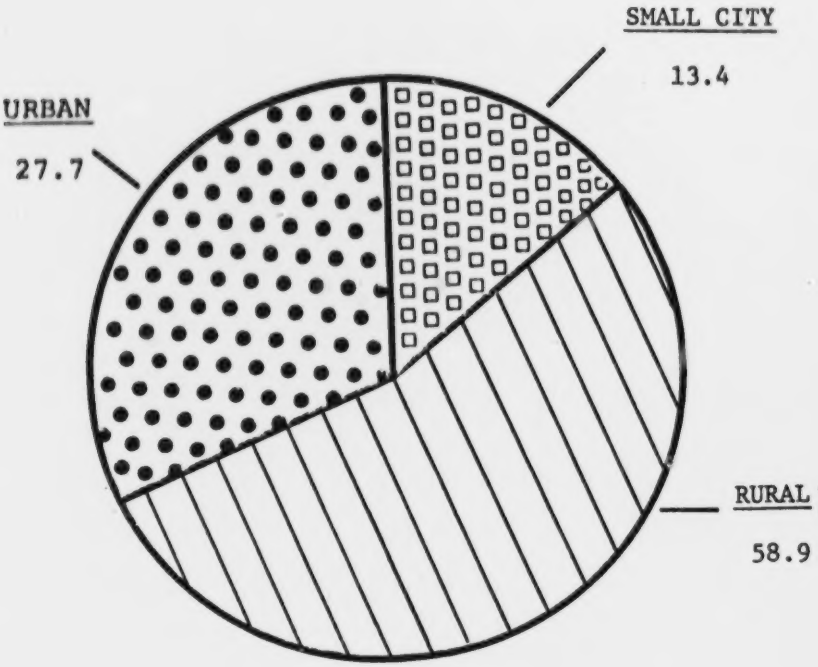
Additional insights into the character of the survey group can be garnered from an investigation of respondents' ability to articulate situations in which they had to make a decision, find an answer, solve a problem, or understand something. When respondents were asked to describe situations, of both a work and a non-work nature, they could not always do so. In fact, many people could only think of, and explain, a single situation. Examining the ability to articulate one or two situations on the basis of respondent demographics indicates substantial variation. Of the respondents, sixty-five years of age and over, 80.6 percent explained only one situation. Frequently, these people had difficulties recalling work-related situations.

Figure 3-3

RESPONDENT DEMOGRAPHICS BY RESIDENTIAL SITUS



RESPONDENT DEMOGRAPHICS BY RESIDENTIAL SITUS



They wanted to describe situations involved with employment before retirement. Interviewers tried to explain that work-related could involve household chores and a variety of other activities. Still the elderly viewed work related situations within a narrow context and opted for a discussion of a non-working, personal (coping and psychological) need. Undoubtedly, the study matrix requires refinement if it is to take into consideration retired and unemployed persons, who may not have encountered work related situations in the past month or so.

Further support for the findings relating to the age demographic can be seen from an examination of situation articulation on the basis of occupational group. Some 91.9 percent of the retired persons, and 77.4 percent of those unemployed, offered only one situation. Approximately three-fourths of the housewives provided a single situation, usually of a non-work nature. For whatever reason, two-thirds of the laborers and 52 percent of the clerical workers supplied only one situation. Other occupational groups tended to suggest two, rather than one situation.

Articulation of one or two situations did not reflect statistically significant differences for sex, residential situs, income, education and race. The distribution from state to state was approximately the same, with Maine representing the only variation. Residents of this one state were more likely to suggest only one situation than were the residents of the other states surveyed.

THOSE NEW ENGLAND RESIDENTS WILLING TO PARTICIPATE BUT UNABLE TO ARTICULATE A SITUATION

The need for information occurs to everyone at one time or another but some cannot, coherently and concisely, articulate situations in which decisions were made, answers found, problems solved, or something under-

stood. During our survey period, interviewers were instructed to gather demographic data on respondents unable to articulate a situation so that the research team could construct a profile of this group. It was felt that such information will aid program planners, as well as researchers wanting to elicit situations from a broader cross section of the population. Information need, as used here, is a construct which researchers have invented to explain why people seek and use information. Having hypothesized that information needs exist, situations are identified in an effort to provide the basis upon which to study information needs. It is our hope to observe "traces" of an information need having existed in the context of the situation. The effort was to get respondents to articulate a situation so that the researchers could get at the information seeking or use that related to it. There is no theoretical reason to believe that ability to articulate situations is a requisite to seeking or using information; it is only for our need as researchers in order to observe the information seeking or use. In brief, we do not equate articulation to the information need. However, the ability to articulate situations may be requisite for use of formal information systems.

In this New England study, some 502 residents expressed a willingness to participate in the telephone survey but could not recall a single situation. Having to remember an important situation in which they recently needed to find an answer to a question, solve a problem, or make a decision was impossible for these people, at least during brief telephone conversations in which they undoubtedly sensed that the interviewer was waiting for a response. Interviewers were thoroughly trained to be patient in waiting for a response and not to prompt potential survey subjects by suggesting possible topical areas. They could and did, however, ask survey

subjects to recall what happened to them in the past week and to see if any of their activities fell within the scope of this study.

A slightly higher percentage of those residents unable to articulate situations were women (57.8%). This pattern, which did not deviate on the basis of state, was similar to the response characteristics of the 2,400 survey subjects. Therfore, it seems to show that sex was not an important determining factor. A significant difference, however, can be found for the residence demographic. Some 273, or 54.4 percent, of the 502 zero-situation New England residents lived in cities or towns under 50,000 in population. Further, by including those residents who live in open country or on a farm, the number increases to 355, for a total percentage of 70.7. As is evident, people living in large cities, suburbs near metropolitan centers, and cities over 50,000 in population are more likely to articulate situations. This finding is also true on a state-by-state basis, with two exceptions: Massachusetts and Rhode Island. In these two states, people unable to articulate situations were as likely to reside in an urban center as they were to live in rural settings. This difference can possibly be contributed to the characteristics of the urban population in large cities of Massachusetts and Rhode Island, such as Boston. For example, the large number of intercity population can possibly show the statistical result. Thus, it would seem that the opportunities for residents to be exposed to the complexity and variety of potential information sources may have a bearing on their articulation ability.

Some 344, or 66.5 percent, of the 502 residents had received an education of high school or less. The remaining percentage was distributed among various categories reflecting differing degrees of college education. For this demographic variable no variations among the six states

were evident. Apparently, those who are less educated experience a greater degree of articulation difficulty.

All but ten residents identified their age. Analysis by age of respondent reflects that half of these people were at least 46 years of age or over. Those falling within the first quartile were 62 years of age or older, while those in the third quartile were at least 30 years of age. Similar results were found across all six New England states. It would seem, on the basis of these findings, that older people encounter greater difficulty in situation articulation.

Some 95 of the 502 residents refused to identify the category range reflecting their income. Of the 407 providing income data, some 277 (68%) reported a total family income of less than $15,000. By including the category range of "$15,000-20,000," the percentage becomes 81.1. Once more, state comparisons did not reflect variation. These data seem to suggest that lower income people have greater difficulty in verbalizing situations.

Table 3-7 reflects the ethnic background of the 502 survey subjects, Similar to the 2,400 respondents able to express a situation, these individuals were primarily caucasian. Yet, on the whole, the caucasian group accounted for only 73.7 percent of the total 502 zero-situation respondents. Clearly, this is much lower in comparison with the 94.4 percent of the survey population. The Black population, which accounts for 5.4 percent of the total zero-situation population, is higher than that participating in the main study (ranging from a low of 0.2 % in Maine to a high of 4.2% in Connecticut).

← -Similar findings are apparent for some other ethnic groups. This suggests that language difficulties as well as the cultural, social, and economic backgrounds of the minority/ethnic groups could influence their

Table 3-7. State Comparison of the Ethnic Origin for People Unable to Articulate a Situation (Number of Respondents)

	Black	Caucasian	Hispanic American	American Indian	Asian American	Portuguese American	Other	Refused to Answer	Total Number
Connecticut	6	47	1	1	-	-	-	2	57
Maine	10	24	26	18	13	10	-	19	120
Massachusetts	4	47	-	-	-	-	-	1	52
New Hampshire	1	77	-	-	-	-	-	2	80
Rhode Island	4	74	-	1	-	3	-	-	82
Vermont	2	101	-	1	-	-	4	3	111
TOTAL NUMBER	27	370	27	21	13	13	4	27	502

ability to articulate situations.

Some 29 (5.8 % of 502) individuals refused to disclose their occupation. Occupations described by the other 473 respondents were coded into the same occupational categories for this study. The results indicate distribution among all the categories, with the most frequently cited ones being:

retired persons (15.7 %)

craftsmen and kindred workers (15.7 %)

clerical and kindred workers (11.5 %)

housewives (8.2 %)

professional and technical workers (7.6 %)

service workers, excluding private household (6.6 %)

Thus, almost two-thirds of all the occupations suggested (65.3 %) fall into these six categories. Given what was discussed earlier in terms of age, income, and education, it is interesting to note that the highest two groups of respondents for zero-situations were retired persons or craftsmen and kindred workers.

In summary, a person who was willing to participate in this survey but was unable to articulate either a work or non-work situation seemed most likely to earn less than $15,000 per year, to have a formal education not exceeding high school, to reside in a place not exceeding a population of 50,000 (Massachusetts and Rhode Island possibly comprise an exception to this generalization as was discussed earlier), and to be over forty-six years of age.

REPORTING ON HYPOTHESES

As detailed in Chapter 2, a series of hypotheses were generated to guide formulation of the questionnaire and to probe specific areas of

information needs. The hypotheses which were designed to lend the data collection procedure a sense of purpose and direction, were the controlling ideas behind the study. In surveying and analysis, it is these concepts that are tested, weighed and assessed. Findings concerning specific hypotheses are summarized in the next chapter. The following discussion focuses on the situations described, the source providers consulted, level of satisfaction with the sources, barriers encountered in the search for information, relevance of economic and perceptual criteria, and reasons for library use and non-use.

Information Seeking Situations

In all interviews, respondents were asked first to describe an important work or non-work situation from the past month or so in which they made a decision, found an answer to a question, solved a problem, or tried to understand something. These situations could be positive or negative. What was important was that they be situations where the person stopped and thought about what he/she was going to do. The 2,400 completed interviews produced a total of 3,530 situations, of which 1,572 were work related and 1,960 were non-work related.

Table 3-8 represents a rank order of major work and non-work situation categories faced by those surveyed. Consumer issues, together with "job-related: technical" accounted for one-fourth of all the situations described by respondents. Each category was suggested in 13 percent of the total situations. As for the category of consumer issues, which was the major non-occupational situation described by those interviewed, respondents could recall, among others, information needs relating to the following topics:

Table 3-8. Major Situation Categories Described by Respondents

Situation	Work	Non-Work	Total	Percent of Total Situations
Job-related: Technical[1]	470	8	478	13.5
Consumer Issues	37	434	471	13.3
Job-related: Getting/ Changing Jobs	321	30	351	10.0
Housing and Household Maintenance	24	266	290	8.2
Education and Schooling	61	181	242	6.9
Recreation	15	162	177	5.0
Money Matters	30	146	176	5.0
Job-related: Organizational Relations[2]	172	3	175	5.0
Health	38	118	156	4.4
Job-related: Salary and Benefits	121	5	126	3.6
Child Care	18	82	100	2.8
Personal Relations	5	93	98	2.8
Transportation	13	47	60	1.7
Energy	11	46	57	1.6
Assorted Miscellaneous	236	337	575	16.2
TOTAL	1,572	1,958	3,530	100

[1]Issues related to execution of specific tasks or related to setting up businesses.

[2]Job definition and relations with supervisors and co-workers.

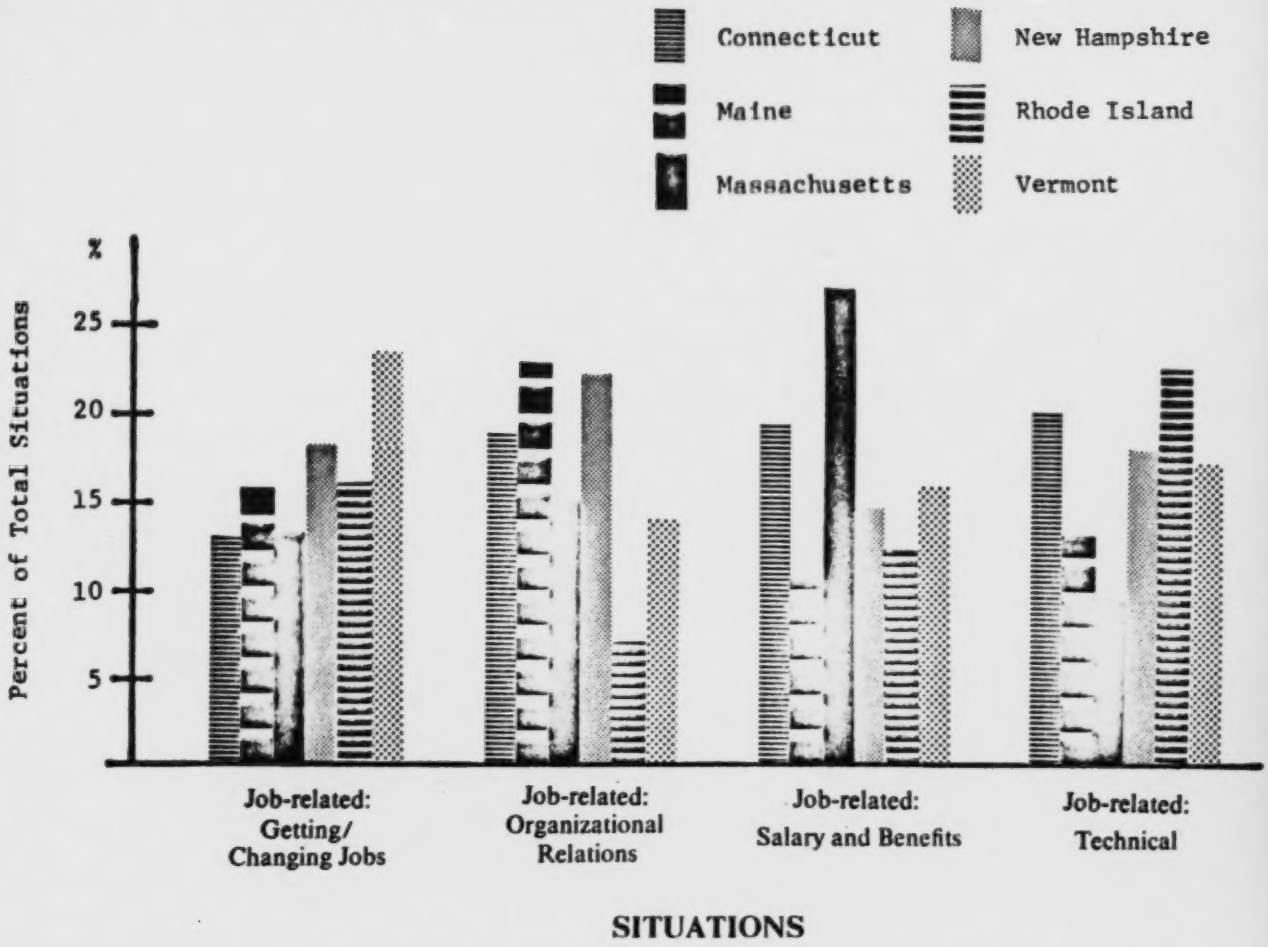


Figure 3-4. Comparison by State for Selected Work-Related Situation Categories

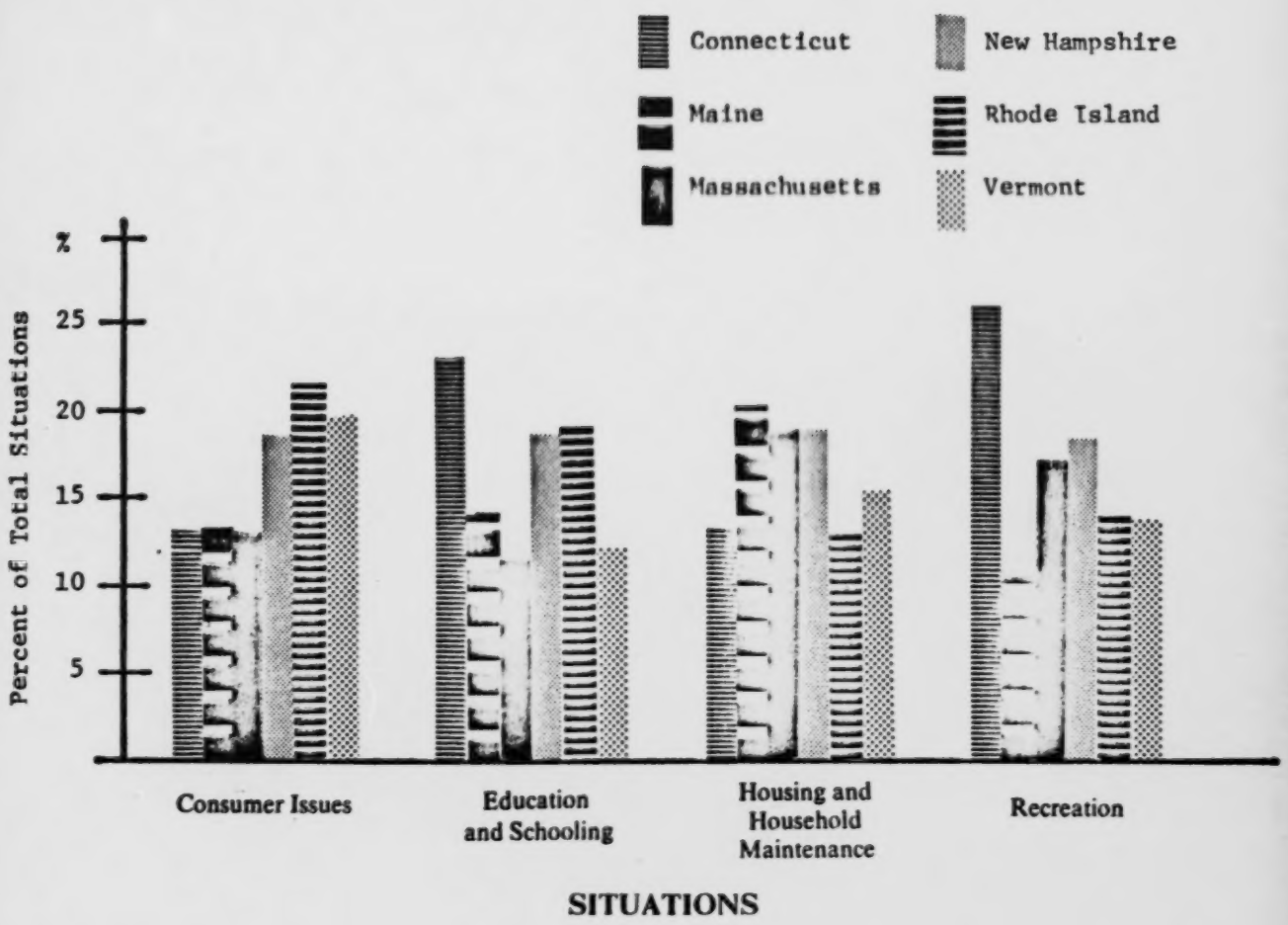


Figure 3-5. Comparison by State for Selected Non-Work Related Categories

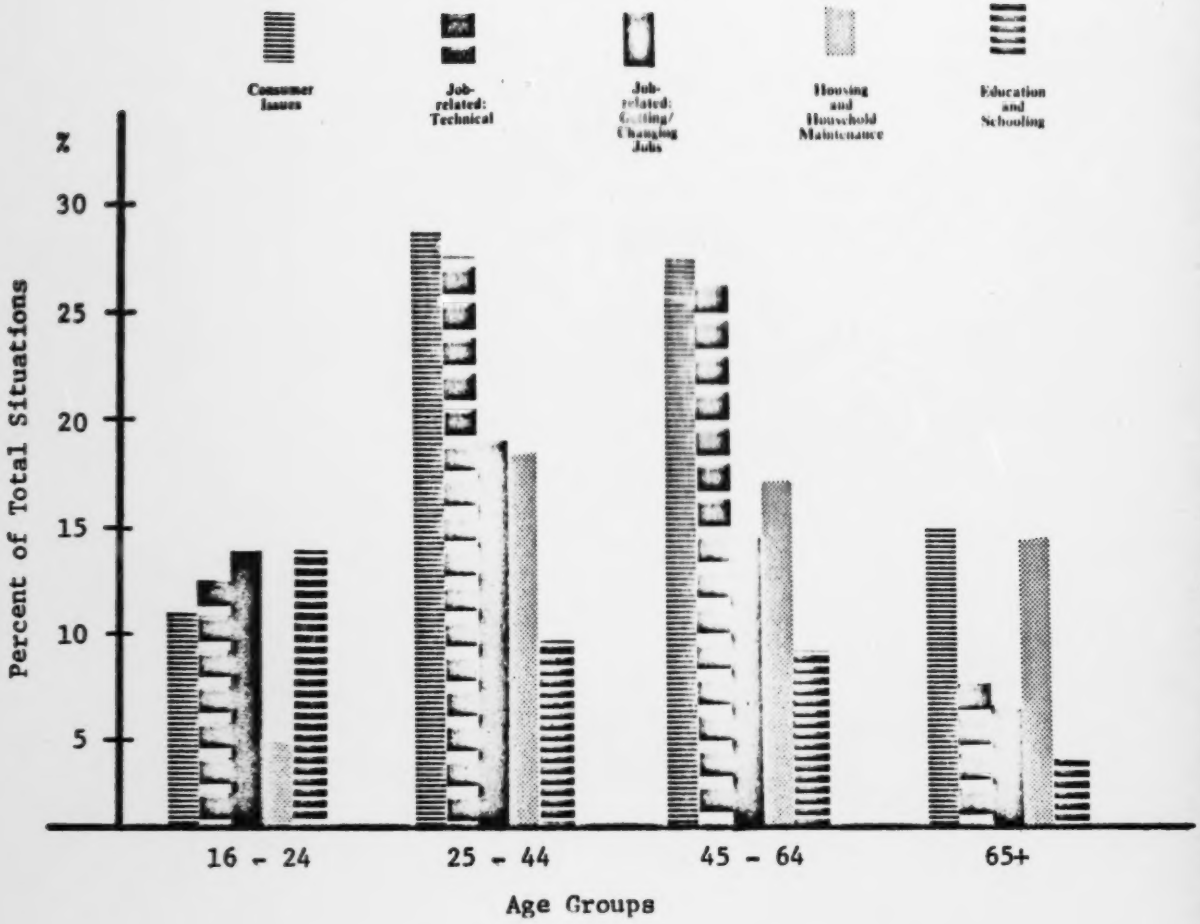


Figure 3-6. Information Seeking Patterns by Situation Categories Among Different Age Groups

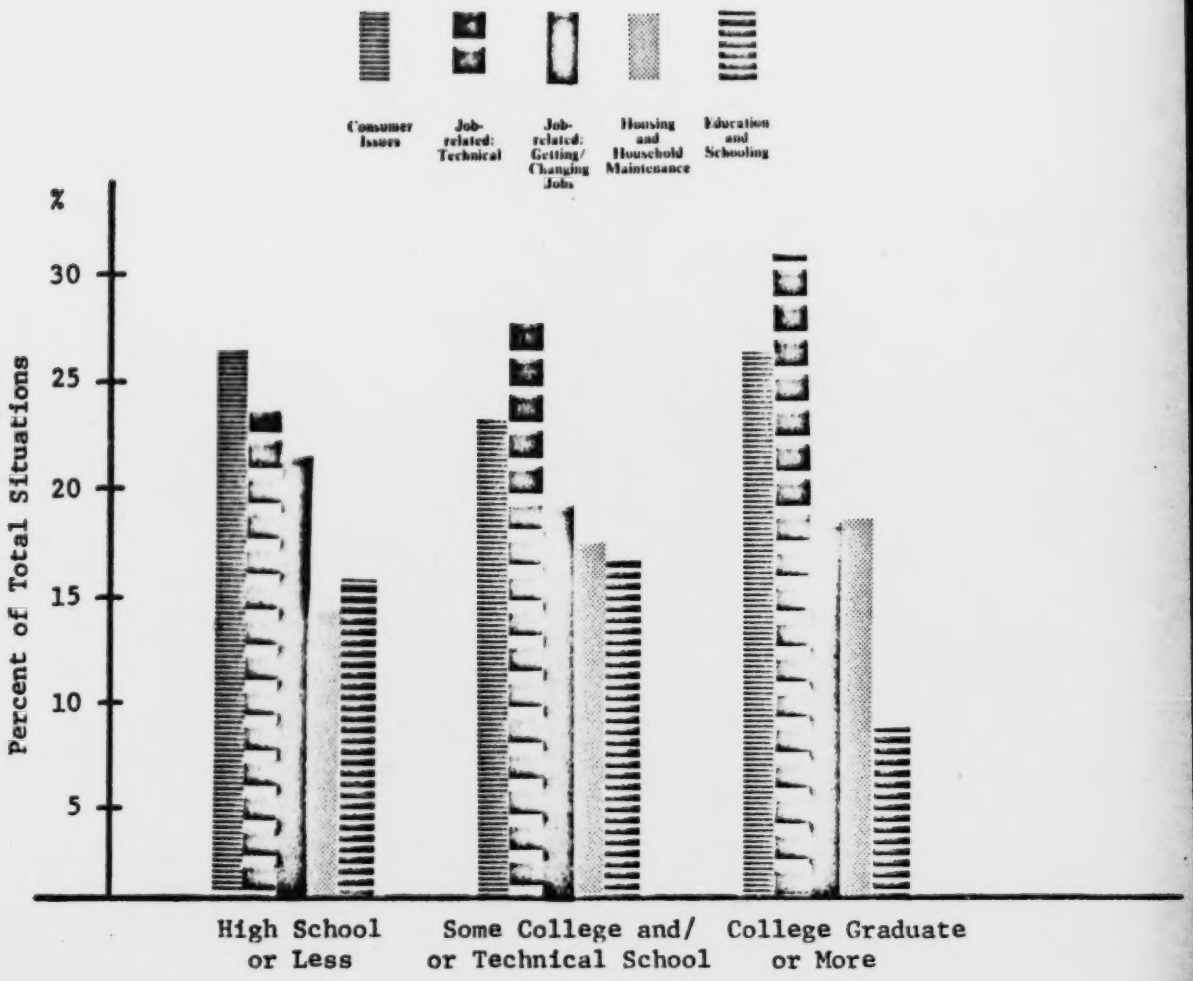


Figure 3-7. Information Seeking Patterns by Situation Categories Among Groups of Different Educational Background

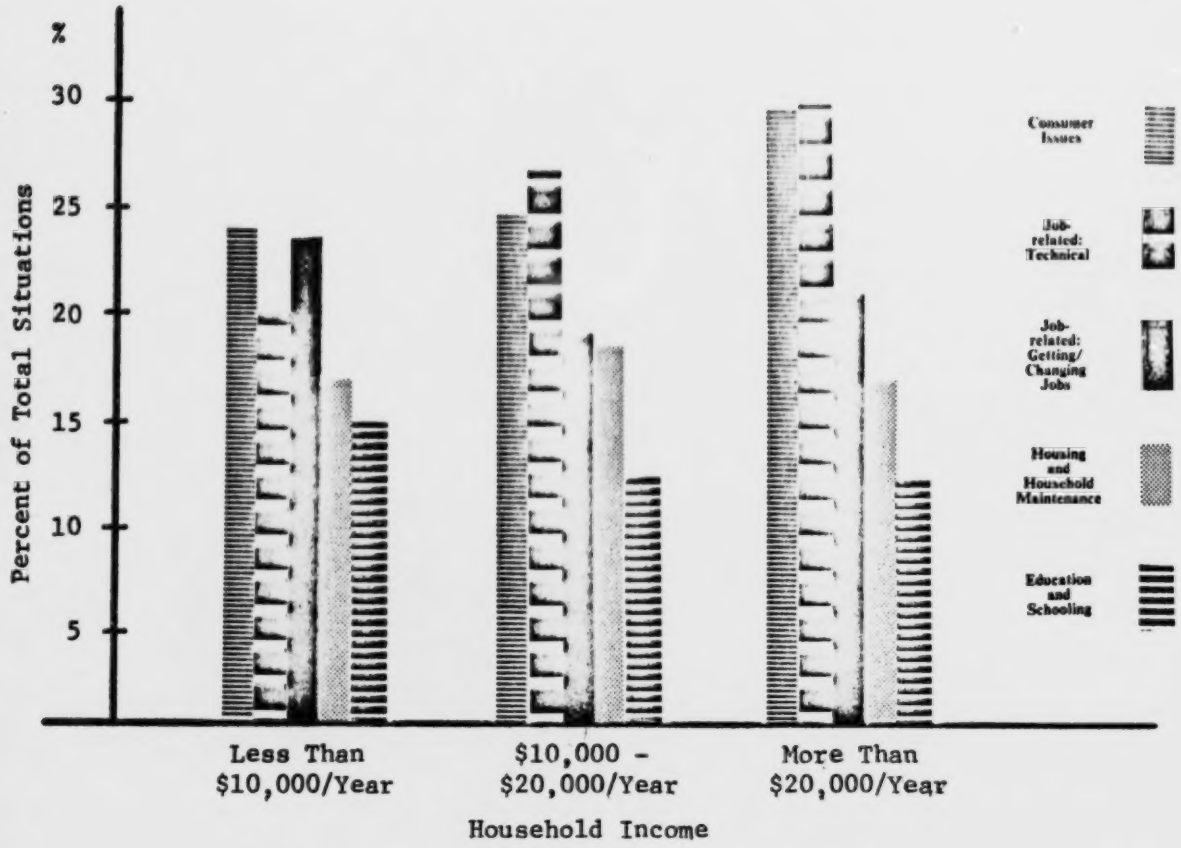


Figure 3-8. Information Seeking Patterns by Situation Categories Among Groups of Different Household Income

- product quality
- product availability
- product information
- billing
- service availability
- service quality
- service information
- high prices
- consumer protection

Before interpreting these findings, readers are urged to review Appendix III which summarizes the component topics used for defining all given situations. For example, it would appear from Table 3-7 that energy matters were of little importance to polled New Englanders, but since the survey was conducted during the summer and early fall of 1979, during a severe gas shortage with escalating fuel prices, such a conclusion would be highly inaccurate. Energy concerns, as it turns out, are listed in the table, but as part of such categories as money matters, transportation and other.

Situations by State

Examination of the total 3,530 situations among the six New England states indicates state to state variations mostly in the situation categories relating to occupational groupings as well as to consumer issues, recreation and education. (See Figures 3-4 and 3-5.) Consumer issues rated highest for residents of Rhode Island, Vermont, and New Hampshire; percentages for the remaining three states were similar.

Recreational situations were more likely to be mentioned by respondents from Connecticut, Massachusetts and New Hampshire (with the percentage among

the remaining three states averaging 12.2. Again, residents of Connecticut emphasized educational situations more so than those of the other states. The percentage spread among the remaining five states was only 7.2. It does seem unusual that Massachusetts, known for its diversified educational facilities and centers, ranked fourth. Housing issues were much more of a concern to residents of Maine, New Hampshire, and Massachusetts, than they were to citizens of Rhode Island or the other two states.

Among the work related situations of getting/changing jobs, technical issues, and organizational matters, some distinct variations emerge. Respondents from the state of Maine were most interested in organizational matters; they were at the lower end of the scale for getting/changing jobs, and technical issues. Residents of Vermont were more likely to describe situations relating to getting/changing jobs than they were situations pertaining to technical and organizational matters. Citizens of New Hampshire showed the least variation among the six situation categories; as indicated in Figures 3-4 and 3-5, regardless of the situation categories; they ranked either second or third. As to the occupational categories, respondents from Rhode Island were most likely to suggest technical issues. Except for salaries and benefits, Massachusetts residents surprisingly ranked no higher than fourth in the remaining occupational categories. Finally, citizens of Connecticut ranked high on technical issues but low on getting/changing jobs.

Situations by Demographics

Combined Work and Non-Work Situation. Situation categories were examined on the basis of respondent demographics. Figures 3-6 through 3-8 show substantial differences in terms of information seeking patterns among

the various classifications of respondents for combined work and non-work total situations. For example, respondents sixty-five years of age and over most often suggested situations relating to education and the getting/changing of jobs. Also, the lower the income bracket the more likely that the respondent would be interested in getting/changing jobs and consumer issues.

The distribution of both work and non-work situation categories by occupaional groupings indicated minor variations except for clerical workers, retired persons, students, and housewives. Clerical workers were the only group to place getting/changing jobs as the most frequently mentioned category. Other than for this, the distribution of this group was similar to that of the others. Predictably, students most frequently described an educational situation; as with other groups,they were also interested in job-related: technical, and getting/changing jobs, as well as consumer issues. Housewives and retired persons showed the greatest variation within their responses. Of the 132 combined work and non-work situations (3.8 % of the total) described by retired persons, the percent distributions is as follows:

consumer issues	(21.9)
housing	(14.2)
health	(7.0)
education	(6.3)
energy	(5.6)
recreation	(5.1)
money matters	(5.0)
other	(34.9)

Similarly, the percentage distribution for 204 situations (5.9 %) of the total situations) given by housewives was:

consumer issues	(16.6)
housing	(15.4)
education	(12.8)
recreation	(7.5)
health	(5.9)
personal relations	(4.4)
other	(37.4)

The job-related categories are notably absent from both rankings. Yet, job-related categories played a far more central role in the situation specified by other occupational groups.

Separate Work and Non-Work Situations. Thus far, analysis of the situations has been based on combined findings for work and non-work situations, for a total of 3,530 situations. When we examined the 1,572 work-related and the 1,958 non-work related situations separately, we discover that the findings are similar to those for the total situation.

The variables of sex, age, education, state of residence, income, and race did not produce statistically significant differences among work situation categories. However, it should be noted that respondents between the ages of 16 and 34 were the most likely to describe situations relating to the two dominant interests of their lives: getting/changing jobs (65.5 %) and education (78.5 %). Even though statistical significance can not be derived from an analysis of the types of situations mentioned according to profession, it is interesting to note that 60.5

percent of the work situations were described by those whose occupation are of lower prestige levels, as determined by the NORC scale. (See Chapter 2 for an explanation of this scale.)

Similarly, those variables of sex, place of residence, education, income, and race did not produce statistically significant differences for non-work situation categories. Some marked differences surfaced, however, for the age variable. Over 60 percent of the education (65.7 %) and almost that percent of recreation (58.6 %) situations were described by people under the age of 34, whereas 59.2 percent of the health situations, were given by people older than this.

Situations In Relation To The Categories Specified by the White House Conference On Library and Information Services

The White House Conference on Library and Information Services examined five themes in which information plays a role. As shown in Table 9, the vast majority of total situations (73 %) pertained only to "meeting personal needs." Within this theme, over half (52%) of the situations dealt with the resolution of day-to-day problems. "Improving organizations and professions " was an important secondary category. Here, the most important factor was serving organizations that provide products or services. Education accounted for only 4.6 percent of the total work situations, and the government for only 2.5 percent. Respondents did not suggest any situations dealing with theme five, which covers international issues and problems.

As for the 1,572 work situations, some 54.3 percent dealt with meeting personal needs, while "improving organizations and the professions" comprised 38.8 percent. As is evident, the percentage for the

Table 3-9: Respondent Situations Classified by White House Conference Themes

Theme	Number of Situations	Percent of Total Situations	Number of Work Situations	Percent	Number of Non-work Situations	Percent
1. MEETING PERSONAL NEEDS						
a) serve in solving day-to-day problems	1,839	52	742	47.2	1103	56.3
b) assist individuals in coping with trauma or crisis	172	5	43	2.7	133	6.8
c) inform the public of news and current events	106	3	16	1.0	80	4.1
d) support interests in cultural heritage, religion and family life	195	5	19	1.2	173	8.8
e) accomodate needs in entertainment, recreation, and leisure activities	210	6	23	1.5	187	9.5
f) serve special constituencies	23	1	9	0.6	14	0.7
g) other (personal)	26	1	1	0.1	23	1.2
2. ENHANCING LIFELONG LEARNING						
a) support education in schools	71	2	28	1.8	44	2.3
b) concerns reinforcing higher education	78	2	37	2.4	40	2.0
c) erase illiteracy and improve reading skills of general public	2	0*	1	0.1	1	0.0
d) enhance informal lifelong learning for pre-school age children and adults	17	0*	3	0.2	17	0.8
e) other	18	0*	1	0.1	5	0.3
3. IMPROVING ORGANIZATIONS AND THE PROFESSIONS						
a) serve organizations that provide products or services	458	13	447	28.4	14	0.7
b) support organizations that provide a benefit	10	0*	5	0.3	5	0.3
c) assist professions	169	5	116	7.4	53	2.7
d) other	68	2	43	2.7	23	1.2
4. EFFECTIVELY GOVERNING SOCIETY						
a) increase citizen participation in public policy decisions	38	1	9	0.6	27	1.4
b) government needs for census, economic, weather, and other related information	6	0*	1	0.1	5	0.3
c) government needs related to public service, research, regulations, and laws	36	1	24	1.6	10	0.5
d) other			3	0.2	1	0.1
TOTAL	3,548	100%	1,572	100%	1,960	100%

* Percentages smaller than 0.55 are rounded off.

latter theme was 18.8 percent higher than that for the combined work and non-work situations. On the other hand, the majority of non-work situations (87.4 %) related to the White House Conference theme of "meeting personal needs." Over half of those situations emphasizing this theme (56.3 %) dealt with resolving day-to-day problems. Within this context, we find situations dealing with such topics as consumer issues, transportation, housing, and neighborhood concerns. The other four themes accounted for a relatively small proportion of the total non-work situations.

Citizens' overriding requirements for information in meeting their personal needs seem to be in line with what was expressed by the White House Conference delegation and the resolutions passed during that conference. This finding, together with demographic characteristics of respondents, should have implications in terms of future planning and development of library services in this country. Further coverage of this significance will be dealt with in the next two chapters.

Information Source Providers

It is useful to insert a methodological note at this point. The research team is not equating situation categories and information needs. It is, rather, suggesting that information needs arise naturally within the context of individual situations. Individuals utilize information providers as preliminary sources to decision making, problem solving, or a fuller understanding of an element in the surrounding world.

Given the conceptual framework of this study, once situation cate-

gories had been identified, survey subjects were presented with a list of source providers, and were asked to select those which they either had consulted in the past, or planned to consult in the future. Table 3-10 presents the sources consulted in the order of frequency of suggestion by the 2,400 respondents. Respondents were also asked to identify the sources they considered most or least helpful in their pursuit of pertinent information. Libraries were ranked ninth among information source providers and were considered as most or least helpful in only 3 percent of the situations in which they were consulted. In the remaining instances, when they were used, they served as an intermediary step in the information chain; although often failing to provide the information sought, they may, instead, indicate other possible avenues of search.

In many situations (76% of the total), respondents consulted five or less providers. Conversely, in few (7.6%) of the situations did respondents use eight or more source providers. There were no statistically significant differences on the basis of respondent demographics, state variations, and work and non-work situations.

In an attempt to determine the qualities of a specific source provider which made it more or less popular, the randomized list of thirteen sources was broken down into groups showing basic characteristics: interpersonal (e.g. one's own thinking and past experience, friends, neighbors, or co-workers), institutional (e.g. professional people, school, religious, library, or governmental), and mass media (e.g., newspaper, books, television, or radio).[2] In

Table 3-10. Source Providers Consulted

Sources Consulted	Number of Situations	Percent of Respondents Citing Source	Percent by Which Source is Listed as: Most Helpful	Least Helpful
Own experience	2,611	74	25	16
Friend, neighbor, or relative	1,993	57	15	17
Newspaper, magazine, or book	1,585	45	10	12
Store, company or business	1,572	45	10	10
Co-worker	1,534	43	12	11
Professional (e.g., doctor or lawyer)	1,420	41	13	6
Government	943	27	5	6
TV or radio	731	21	1	8
Library	596	17	3	3
Telephone book	580	16	1	6
Social Service agency or charity	461	13	2	3
Religious leader	337	10	1	1
Other	86	3	2	0

all situations, work and otherwise, respondents were most likely to consult interpersonal sources alone or in conjunction with institutional and mass media sources. When institutional sources were used, most frequently respondents checked professional people, companies, or government agencies as shown in Table 3-11. The other providers in this category were used much less frequently. Except for the group of professional people, the percentage differences between least helpful and most helpful were similar.

Probing the sequence in which source providers are consulted might prove productive for future studies. It would provide a more complete indication of the relationship among sources of an interpersonal, institutional, and mass media nature, and supply a more detailed picture of information seeking patterns. Although survey respondents, in many instances, consulted a large number of source providers, self-reporting, based on a checklist of sources, may produce either an under-estimation or an over-estimation of those actually consulted. Further, respondents may have described the same source under various categories. For instance, the co-worker consulted might have been associated with a government agency. In such cases, both the co-worker and government agency categories might be mentioned, without indication that they represented the same consultation. Interviewers were instructed to detect this and to have the respondents clarify the appropriate response category. This checking procedure proved difficult to implement, as interviewers did not always remember to verify that suggested source providers comprised seperate entities. To be fair to the interviewers, the questionnaire was complex and even experienced interviewers occasionally forgot the proper sequence and had to call subjects later for additional information.

The hypothesis pertaining to the source providers dealt with the number and type (interpersonal, institutional and mass media) consulted. Analysis by state of residence, demographic characteristics, as well as work and non-work situations produced no statistically significant differences. Regardless of situation categories and their placement within the fabric of work and non-work needs, respondents placed heavy emphasis on interpersonal source providers. Past experiences, communication with friends, neighbors, and co-workers, provide the basis for dealing with many information needs arising from everyday living. When using mass media resources in obtaining needed information, respondents tended to seek further information from a smaller range of other source providers. In most cases, the extent of their further information search might have been limited to use of personal collections or printed information obtained from interpersonal contacts.

Level of Satisfaction with Source Providers

Most Helpful Source.

Situation categories. As mentioned previously, respondents were asked to identify the source provider most helpful in meeting their information needs. Table 3-12 discusses those source providers listed as most

Table 3-11. Institutional Source Providers Depicted As Most and Least Helpful

Source Providers	Total Percent Of Use	Percent by Which Source Was Listed As: Most Helpful	Least Helpful
Professionals, such as doctor or lawyer	41	13	6
Store, company, or business	45	10	10
Government agency	27	5	6
Library	17	3	3
Social services agency or charity	13	2	3
Religious organization or leader	10	1	1

Table 3-12. Source Providers Listed As Most Important for Selected Situation Categories

	Interpersonal Sources %	Mass Media %	Institutional Sources %	Other %
Consumer Issues	45.5	15.7	38.2	0.6
Housing	50.9	10.2	36.7	2.2
Getting/Changing Jobs	67.4	6.6	23.2	2.8
Salary and Benefits	63.9	4.9	28.6	2.6
Job-related: Organizational	59.6	8.0	30.4	2.0
Job-related: Technical	55.3	12.2	30.7	1.8
Education	45.3	11.0	40.3	3.4
Recreation	55.5	17.5	24.4	2.6

important in relation to the top eight major situation categories (ones accounting for 65.5 % of the total situations). Clearly, sources of an interpersonal nature were most likely to be regarded as most helpful. No significant variations were found for respondent demographics and individual states.

Although interpersonal sources were mentioned as most helpful in over 45 percent of the situations specified in every category, there is significant variation from category to category. For example, interpersonal sources were considered the most helpful for the category of getting/changing jobs, whereas for situations relating to consumer issues and education, only 45 percent mentioned that interpersonal sources were most helpful. On the whole, mass media sources were not frequently labeled as the most important source. Still, they received their highest percentage for recreation related activities.

Isolating the category of institutional sources would indicate a predominant reliance, regardless of situation categories for professional people and corporations; a detailed statistical breakdown is provided in Table 3-11. Institutional sources were consulted 38.2 percent of the times in which respondents dealt with consumer issues. Nearly a third (28.9 %) of these sources were corporations and professional people. The remaining 7.9 percent involved the other remaining institutional sources. Libraries were seldom labeled as most helpful sources. The largest percentage in which they were labeled as most helpful was for the categories job related: technical (5.7 %) and education (5.0 %), This low percentage for the library should not be surprising

given the overall finding that libraries were most helpful in only 3 percent of the total situations in which they were consulted.

Professional people, businesses and corporations were mentioned most frequently for the situation categories of job-related: technical, housing, and getting/changing jobs. In the case of consumer issues,the order was reversed, while for education and schooling, professional people were mentioned the mostand businesses the least. For the categories of housing and consumer issues, government agencies and libraries placed in third or fourth positions, with social services agencies, charities, and religious leaders mentioned in less than 1 percent of the situations.

In job-related: technical situations, libraries placed third and government agencies fourth. The situations of education and getting/changing jobs reflected the most variation. For education, professional people were followed by government agencies, libraries, social service agencies and religious leaders. Corporations and businesses placed last and were suggested in less than 2 percent of the cases. As is evident from the discussion thus far, libraries ranked either third or fourth. The category in which they dramatically shifted position was for getting/changing jobs. Here they were listed last- most important in only 1.5 percent of the situations. Social service agencies and religious leaders rated slightly higher. Government, businesses, and professional people were suggested with greater frequency.

Respondents drew upon a variety of information source providers. Among those of an institutional nature, libraries were most likely listed as most helpful within selected categories, primarily job-related: technical and education. Overall, however, respondents

seldom sought resources contained in libraries. As will be discussed later in this chapter, situation categories were probed in depth in order to discover those areas in which people were most likely to turn to institutional sources and to label them as most helpful.

In further quantifying the positive and negative qualities of popular source providers, respondents were asked if there had been anything about the most helpful source which they did not like. Overwhelmingly (92%), there was satisfaction with that source provider. Given the degree of satisfaction with the most helpful source, it is understandable that respondents expressed the likelihood that they would return to that source with a similar information need in the future. If a minor irritant was present, it most likely pertained to relevance or accuracy of the answer; or the manner in which the answer was presented.

Referral. Regardless of situation, respondents did not choose the most helpful source provider on the basis of a referral. In those situations in which respondents had been referred (20% of the total), respondents usually found the most helpful source provider through recommendations from friends or acquaintances (58%). Referrals offered by institutional source providers most often came from someone working for a business (16.9%), or a professional person (15.0%). On the whole, government agencies infrequently engaged in referral. Likewise, in the few instances in which government officials did offer suggestions, respondents almost never made use of them; in fact, in only 2 percent of the total situations did information seekers locate a source provider due to a government referral.

For the category of education and schooling, it might be mentioned that friends accounted for 39.3 percent of the referrals, school personnel for

28.3 percent, and professional people with whom respondents had contact for 18 percent. Together these three groups accounted for 85.6 percent of the referrals. Yet, the importance of this finding must be viewed within the context of a central fact: referrals occurred in only 20 percent of all the situations described.

Reasons for labelling a source provider "most helpful." Geographic proximity to a source provider was not an important factor in its selection as most helpful. Overwhelmingly, respondents went to the most helpful source due to prior experience and knowledge. The only two exceptions (crime and safety, and legal issues) involved a very small number of situations. Of the 14 situations involving crime and safety, ten did not go to the particular source due to prior knowledge. The total number of legal situations was 37 of which 31 involved referral while six did not.

There was no statistically significant difference between non-work situations categories and the various reasons for labeling a source provider "most helpful." In all, close proximity and easy accessibility were not important factors. Although not significant, this issue should be pursued in future studies. It may be that the energy shortage may force the public to alter its information seeking patterns and source provider priorities.

An unsuspected, but generally influential, agent in respondents' choice of source provider was coincidence. Many respondents reported that they made use of a response in relation to another need, and as an afterthought, procured assistance in resolving the need described for this study. Perhaps information seeking patterns are as idiosyncratic as the humans of which they are a function.

Summary. As this survey indicated, respondents went to the most helpful source provider due to prior experience (75.6%). As might be expected, respondents overwhelmingly (92%) expressed some degree of satisfaction with the source provider (92%) and most (92.7%) felt that they would return to the most helpful source if a similar need arose in the future. Further, the findings underscore the importance and role of interpersonal sources in meeting everyday information needs. Given the total percentage of situations in which libraries were consulted, respondents were much more likely to visit institutional source providers other than libraries.

Least helpful sources. Situation categories. As is shown in Table 3-10, respondents were asked to identify "least helpful" sources. By taking the list of thirteen source providers and regrouping them on the basis of broad categories covering interpersonal, mass media, and institutional sources, it can be found that interpersonal sources were regarded as least helpful in 44.4 percent of the situations in which there was an identifiable least helpful source. Another 25.6 percent of the least helpful sources were classified as mass media. The remaining 30 percent was split between institutional sources (29.4%) and other (0.6%). Examination of those institutional sources depicted as least helpful indicated that businesses, professional people, and government agencies generated the major dissatisfaction. Libraries, social service agencies, and religious leaders were used less frequently and consequently were less likely to be labeled as least helpful. They accounted for only one-fourth of the instances in which institutional sources were mentioned (7.2% of the total 29.4%).

Tables 3-13 and 3-14 indicate state to state variations within each type of institutional source. The categories of professional people, businesses, government agencies, and libraries exhibit only minor state to state variations. In the category of social service agencies and charities, greater deviations emerge, with residents of Vermont making the most use of this institutional source category, while those in Massachusetts made the least. The next table, Table 3-15, illustrates institutional sources on the basis of selected occupational groupings and shows that professional and clerical people most likely labeled businesses as least helpful. Students and housewives, on the other hand, showed significant variation. Students most often labeled libraries and professional people as least helpful, while housewives were less satisfied with professional people. For students, businesses ranked fourth on the list of least helpful institutional sources, while for housewives, they rated third.

Table 3-16, which examines selected situation categories in relation to least helpful institutional sources, shows that for the situation categories of consumer issues and "job-related: technical" and "getting/changing jobs," businesses and professional people comprise the least helpful sources, although they are, on the whole, more frequently consulted. This finding provides even clearer indication that businesses and professional people comprise a link in the information chain, more so than other institutional source providers.

For education and schooling, there are dramatic shifts. In this type of situation, library and government agencies are considered least important in over nine percent of the cases where this situation category was mentioned. Obviously, the information received from both

Table 3-13. Institutional Source Providers Depicted As Least Helpful
(With State Variations Within Each Source Provider) *

	Professional People	Businesses and Companies	Government Agencies	Libraries	Social Service Agencies	Religious People	Other
Connecticut	28 (16.4%)	57 (19.5%)	32 (16.6%)	20 (20.2%)	10 (12.3%)	8 (18.6%)	4 (19.0%)
Maine	31 (18.1%)	46 (15.7%)	31 (16.1%)	14 (14.1%)	15 (18.5%)	10 (23.2%)	0 (-)
Massachusetts	29 (16.9)	42 (14.4%)	33 (17.1%)	17 (17.2%)	9 (11.1%)	5 (11.6%)	6 (28.6%)
New Hampshire	27 (15.8%)	47 (16.1%)	32 (16.6%)	16 (16.2%)	12 (14.8%)	6 (13.9%)	6 (28.6%)
Rhode Island	25 (14.6%)	59 (20.2%)	34 (17.6%)	16 (16.2%)	11 (13.6%)	7 (16.3%)	3 (14.3%)
Vermont	31 (18.1%)	41 (14.0%)	31 (16.1%)	16 (16.2%)	25 (30.9%)	7 (16.3%)	2 (9.5%)
Portion of Total Situations	171 (5.7%)	292 (9.7%)	193 (6.4%)	99 (3.3%)	81 (2.7%)	43 (1.4%)	21 (0.7%)

*All percentages are subject to rounding

Table 3-14. Institutional Source Providers Depicted As Least Helpful (With Relative Comparison Among Providers)

	Professional People	Businesses and Corporations	Government Agencies	Libraries	Social Service Agencies	Religious People	Other	Row Total
Connecticut	28 (5.6%)	57 (11.6%)	32 (6.5%)	20 (4.0%)	10 (2.0%)	8 (1.7%)	4 (0.8%)	492 (16.4%)
Maine	31 (6.8%)	46 (10.1%)	31 (6.9%)	14 (3.0%)	15 (3.3%)	10 (2.3%)	0	452 (15.0%)
Massachusetts	29 (6.2%)	42 (8.8%)	33 (6.9%)	17 (3.5%)	9 (1.8%)	5 (0.9%)	6 (1.2%)	479 (15.9%)
New Hampshire	27 (5.2%)	47 (8.9%)	32 (6.0%)	16 (3.0%)	12 (2.2%)	6 (1.2%)	6 (1.1%)	529 (17.6%)
Rhode Island	25 (4.7%)	59 (11.0%)	34 (6.3%)	16 (3.0%)	11 (2.0%)	7 (1.3%)	3 (o.5%)	537 (17.9%)
Vermont	31 (5.9%)	41 (8.0%)	31 (6.0%)	16 (3.2%)	25 (4.9%)	7 (1.4%)	2 (0.4%)	519 (17.3%)

Table 3-15: Institutional Source Providers Suggested As Least Helpful By Respondents Relative to Selected Occupational Groups

	Professional People	Businesses and Companies	Government Agencies	Libraries	Social Service Agencies	Religious People	Other	Raw Total
Professional and Technical Workers	45 (7.8%)	52 (9.0%)	32 (5.5%)	22 (3.7%)	23 (4.0%)	11 (2.0%)	6 (0.01%)	583 (19.8%)
Clerical and Kindred Workers	17 (4.1%)	43 (10.4%)	27 (6.6%)	5 (1.1%)	6 (1.4%)	4 (1.1%)	4 (1.0%)	409 (13.9%)
Students	12 (6.2%)	6 (3.1%)	8 (4.1%)	13 (6.6%)	3 (1.4%)	4 (2.1%)	2 (1.0%)	194 (6.6%)
Housewives	14 (8.0%)	10 (5.5%)	13 (7.5%)	6 (3.6%)	3 (1.6%)	1 (0.7%)	2 (1.1%)	176 (6.0%)

Table 3-16. Least Helpful Institutional Sources As Compared to Selected Categories

	Professional People	Businesses and Companies	Government Agencies	Libraries	Social Service Agencies	Religious Leaders	Other	Raw Totals of all Source Providers
Consumer Issues	16 (4.1%)	53 (13.2%)	8 (1.9%)	8 (2.0%)	4 (0.9%)	1 (0.1%)	0	403 (13.4%)
Housing and Household Maintenance	18 (7.3%)	20 (7.8%)	17 (6.8%)	4 (1.6%)	5 (2.0%)	5 (2.0%)	3 (1.2%)	253 (8.4%)
Job-Related: Technical	26 (6.4%)	51 (72.3%)	24 (5.8%)	17 (4.1%)	9 (2.2%)	7 (1.8%)	3 (0.7%)	414 (13.8%)
Job-related: Getting/Changing Jobs	17 (5.6%)	30 (9.8%)	16 (5.2%)	11 (3.6%)	12 (4.0%)	3 (0.9%)	3 (1.0%)	308 (10.3%)
Education and Schooling	14 (6.6%)	7 (3.3%)	20 (9.2%)	20 (9.6%)	10 (4.5%)	3 (1.6%)	4 (1.9%)	214 (7.1%)

TOTAL: 3,007 (100%)

source providers does not result in satisfactory resolution of many information needs. This finding takes on a greater importance when it is recalled that education comprises an area of supposed strength for many library collections.

It would appear that social service agencies and religious leaders were infrequently consulted and labeled as either most or least helpful source providers. Businesss and professional people were consistently highly ranked among institutional source providers considered as either most or least helpful for a given situation. Except for education and schooling, government agencies and libraries generated little strong positive or negative feelings. Instead, they probably constitute an intermediate step in the search for information.

The variety of considerations which propelled respondents towards the source they regarded as least helpful share certain base characteristics. Most of those interviewed in this study turned to their least helpful source on the basis of past experience. Regardless of the type of information need involved, positive past experiences and simple geographic proximity were influential considerations. These findings simply reinforce the already self-evident: a source chosen for reasons of simple expedience, and not for its promise as an effective source provider, is likely to result in the greatest degree of dissatisfaction.

Referral. Our study results show that respondents went to the least helpful source provider as a result of referral in only 13.8 percent (346 situations) of total combined work and non-work situations. This finding suggests the relative unimportance of referrals in the process of information seeking. In only 20.2 percent of the non-work situations, and 19.3 percent of the work situations, had the respondent been referred to the most helpful

source provider. Approximately one-third of the non-work situations dealt with recreation, health issues, education and schooling. Still, even for these three situations, the great majority of respondents had not been referred. Further, approximately three-fourths of the referrals had been made by interpersonal source providers, predominantly friends and acquaintances. Professional people were twice as likely to suggest referrals as were any other institutional source provider dealt with in this survey. The same pattern was also present for work situations. In this case, interpersonal sources, primarily co-workers, made most of the referrals (80%).

Least helpful information source providers do not engage in referral activities. Overwhelmingly (in 75% of total situations), respondents explained that least helpful sources had not suggested additional resources to consult. Nevertheless, respondents expressed satisfaction with the least helpful source. This suggested that the public as a whole is unaccustomed to referral.

Referral from the least helpful source was to a diversity of sources, including professional people and co-workers, as well as other institutional and mass media sources. Incidentally, some 12.5 percent of the referrals were to a printed source. An additional 5.1 percent of the situations involved referral directly to libraries and their resources. As can be seen, respondents thought of printed matter in 17.6 percent of the situations, but only 5.1 percent directly involved library resources.

Reasons for labelling a source provider "least helpful." Table 3-17 demonstrates the reasons for dissatisfaction with selected information sources. In over 50 percent of the situations, dissatisfaction was attributed to the relevance or accuracy of the answer, or the manner by which the information was received. As to the library, major weaknesses were concerned with

Table 3-17: Factors Which Respondents Did Not Like About Institutional Source Providers *

	Professional People	Businesses or Corporations	Libraries	Government Agencies	Social Services Agencies	Religious Leaders	Other	Raw Totals
Relevance of Response	19 (6.7%)	24 (8.4%)	16 (5.4%)	25 (8.8%)	14 (4.7%)	2 (0.7%)	2 (0.8%)	289 (28.4%)
Accuracy of Response	8 (4.8%)	15 (9.3%)	7 (4.6%)	12 (7.2%)	6 (3.4%)	---	4 (2.0%)	163 (16.0%)
Understandability of Response	4 (5.8%)	8 (12.0%)	3 (4.3%)	8 (12.8%)	2 (3.4%)	1 (0.9%)	---	65 (6.4%)
Up-to-dateness of Response	1 (5.4%)	1 (1.9%)	6 (23.6%)	1 (5.4%)	---	---	---	26 (2.5%)
Reliability of of Response	4 (5.3%)	10 (11.4%)	1 (0.7%)	12 (14.6%)	2 (2.8%)	1 (1.3%)	2 (1.8%)	85 (8.4%)
Manner of Presentation	12 (11.6%)	22 (21.1%)	---	9 (8.9%)	3 (3.1%)	1 (1.3%)	1 (0.5%)	104 (10.3%)
Cost of Obtaining Answer	4 (24.3%)	4 (27.0%)	---	---	---	1 (7.2%)	---	15 (1.5%)
						Total (for all Situations):		1019 (100.0%)

*Percentages for interpersonal and mass media sources are excluded. The table, therefore, reflects the relative importance of institutional sources and shows variation among specific institutional sources.

overall relevance and up-to-dateness of the response. It is important to note, however, that in only 4.8 percent of the situations in which libraries were described as the least helpful source providers could respondents actually specify a shortcoming.

Respondents' willingness to return to "least helpful" source provider. Respondents were asked if they would return to the least helpful source for an answer in the future to a similar question. In two-thirds of the situations, they expressed a willingness to return, even if there had been some dissatisfaction with the source provider. On the basis of the findings, it cannot be concluded that the sentiment of dissatisfaction was either deeply felt or a reason unto itself for abandoning an information source provider.

Level of dissatisfaction with least helpful source provider. The fact that interpersonal source providers were labeled as least helpful in 44.4 percent of the total situations provides another indication of the degree to which respondents rely on friends, relatives, co-workers, and their own experience. Respondents favored this type of source because it is, by definition, unstructured and readily accessible. Frequently, while discussing another problem with a friend or relative, the respondents sought on the spur of the moment assistance with the situation described in the study. It is important to note that these interpersonal sources are not highly qualified or specifically suited, but rather are merely most available. This singular truth explains the heavy utilization of interpersonal resources - and the resulting widespread dissatisfaction.

Much the same pattern exists for mass media. Respondents encountered a miscellaneous fact while perusing this medium, which they felt might be

of use in resolving their information need. Usage patterns of institutional source providers indicate an essential and imperative distinction. Respondents are more likely to consult libraries or professional people out of a plan and with intent. Because institutional sources are not always readily accessible, the public is more likely to utilize them only after some forethought.

Summary. This section of the chapter has sought to examine the various factors contingent upon the decision making processes that determine the shape of information seeking patterns in our society. It has also touched upon two other closely related issues: barriers encountered in the public's ongoing search for information and the perceived level of public satisfaction with individual source providers and information choices as a whole. In analysis focii became clear: respondents drew heavily upon interpersonal source providers, libraries constituted a secondary and often unimportant institutional source provider, and respondents, on the whole, were not very dissatisfied with least helpful sources. Indeed, respondents indicated that they might consult least helpful sources again in similar circumstances. If they did bypass the source, respondents commented that it would most likely be in favor of the aforementioned most helpful source.

Library Use and Non-use

Thus far, library use has been discussed within the context of the use of institutional source providers in general. Realizing the frequency of use and perceived level of satisfaction involved in library use are two of the more important "vital signs" of modern libraries and have broad and somber implications for all who attempt to build and guide libraries in the future, this section is devoted to more in depth discussion of both library use and non-use in terms of fulfilling citizens' information needs.

Library Use

Table 3-18, which provides detailed data on both library use and non-use by situation categories, gives a breakdown of these categories by work and non-work envirnoments. Respondents turned to the library in occupational situations dealing primarily with technical issues. Issues next in importance were getting/changing jobs and organizational relations. Together, these three situation categories accounted for two-thirds of the use of libraries. With the addition of situation categories for housing, recreation, financial matters, child care, and health, this fraction doubles. On the basis of these findings, it would seem that respondents perceived libraries as potentially useful information sources within definite, recognized subject categories. The work and non-work situations reflect variations in terms of library use.

Table 3-19 provides a detailed breakdown of information on library use by occupational groupings of the respondents. It is clear that certain occupational groups (including professional and technical workers, students, service workers, clerical workers, craftsmen, managers and administrators) exhibit a far greater tendency to utilize library resources. Students, professional and technical workers, accounted for 40.9 percent of the library use.

Figures 3-9 through 3-12 provide further statistical data on library use and non-use by demographic characteristics of the respondents and by the states in which the respondents reside. As demonstrated, no statistically significant differences emerged.

In those situations in which libraries had been consulted as an information source provider, survey respondents were asked to explain their

Table 3-18: Library Use and Non-Use by Situations

Situation	Use of Libraries				Non-Use of Libraries			
	Work	Non-Work	Total	Percent of Total Situations	Work	Non-Work	Total	Percent of Total Situations
Job-related: Technical	115	2	117	19.6	355	5	360	12.3
Education and Schooling	20	56	76	12.7	40	123	163	5.6
Consumer Issues	7	47	54	9.1	30	387	417	14.2
Job-related: Getting/Changing Jobs	46	7	53	8.9	274	25	299	10.2
Job-related: Organizational Relations	32	1	33	5.5	140	2	142	4.8
Health	13	16	29	4.9	25	102	127	4.3
Housing and Household Maintenance	4	25	29	4.9	19	241	260	8.9
Recreation	3	22	25	4.2	12	140	152	5.2
Money Matters	5	18	23	3.9	24	128	152	5.2
Child Care	2	17	19	3.2	16	64	80	2.7
Personal Relations	0	12	12	2.0	5	81	86	2.9
Job-related: Salary and Benefits	9	2	11	1.8	111	3	114	3.9
Energy	1	9	10	1.7	11	37	48	1.6
Assorted Miscellaneous	35	69	104	17.4	214	317	531	18.1
Rounding Errors			1	.2			3	.1
TOTAL:	292	303	596	100	1,276	1,655	2,934	100

Table 3- 19: Library Use by Occupational Groupings

Occupational Classification*	Library Use: Number of Situations	Library Use: Percent of Total Situations	Number of Situations (Percent) by which Source was Considered as: Most Helpful	Least Helpful
Professional and Technical Workers	171	29.2	32 (29.4)	22 (22.3)
Managers and Administrators (except farm)	45	15.2	6 (5.6)	7 (7.2)
Sales Workers	36	6.2	5 (4.9)	7 (7.3)
Clerical and Kindred Workers	56	9.6	13 (12.4)	5 (4.7)
Craftsmen and Kindred Workers	53	9.1	8 (7.2)	10 (10.5)
Operatives (except transport)	19	3.2	3 (2.7)	6 (6.0)
Transport Equipment Operatives	5	0.8	1 (0.5)	2 (1.6)
Laborers (except farm)	10	1.7	----	3 (2.9)
Farmers and Farm Managers	----	----	----	----
Farm Laborers and Farm Foremen	2	0.3	----	2 (1.9)
Service Workers (except private household)	52	8.9	6 (5.9)	8 (7.9)
Private Household Workers	1	0.2	----	1 (0.5)
Retired People	14	2.4	2 (1.6)	3 (2.8)
Students	69	11.7	20 (18.1)	13 (13.2)
Unemployed People	15	2.6	3 (2.7)	5 (4.6)
Housewives	37	6.4	9 (8.7)	6 (6.5)
Non-respondents	11	----	----	----
TOTAL	596			

*Siegel. Paul M. "Prestige in the American Occupational Structure." Unpublished Ph.D. dissertation, University of Chicago, 1971.

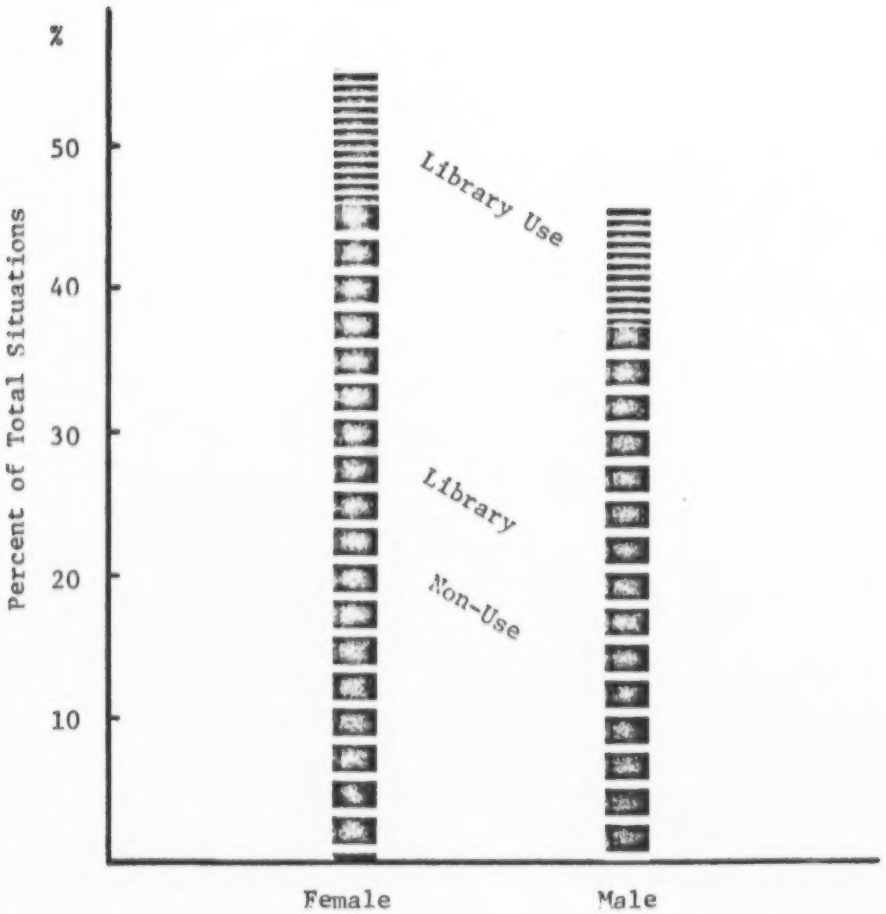


Figure 3-9. Library Use and Non-Use by Sex of Respondent

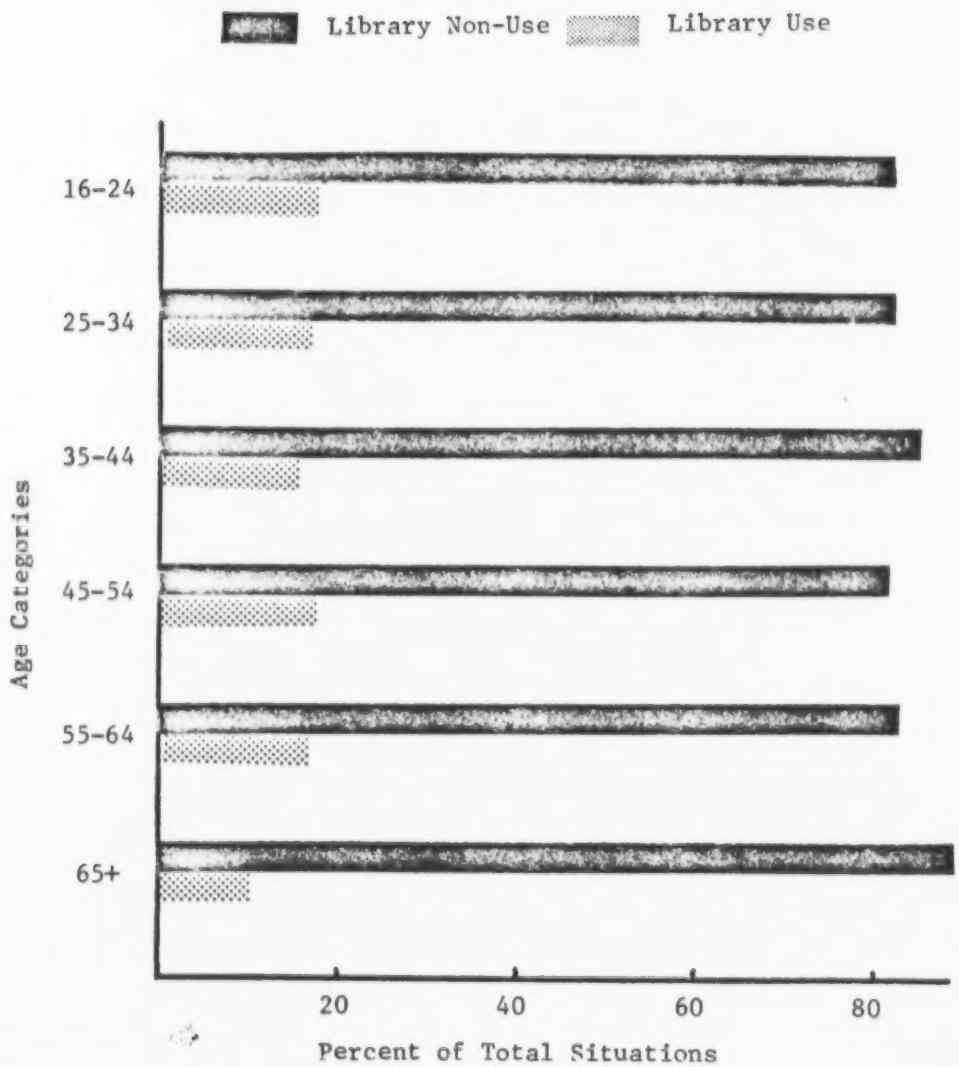


Figure 3-10. Library Use and Non-Use by Age of Respondent

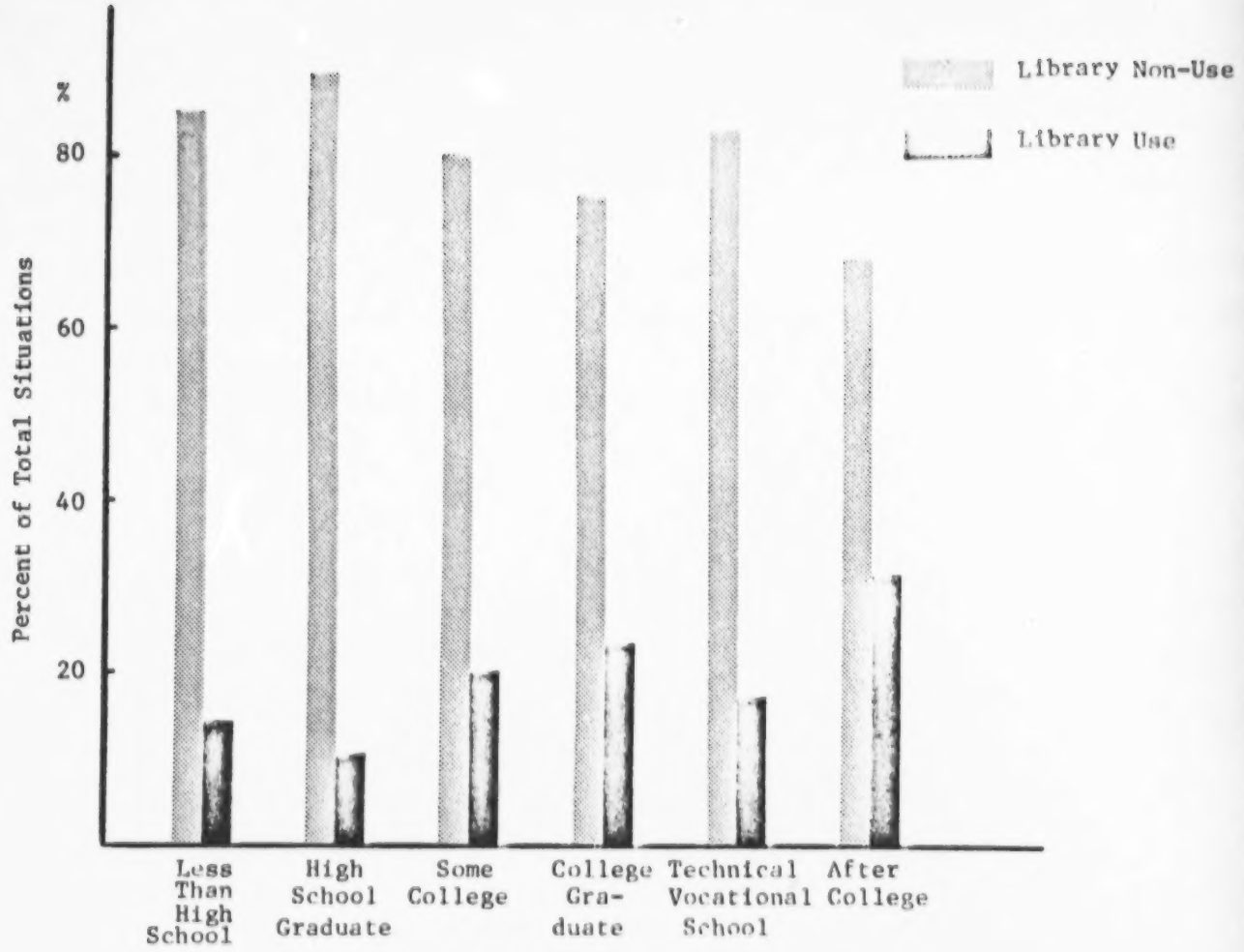


Figure 3-11. Library Use and Non-Use by Education of Respondent

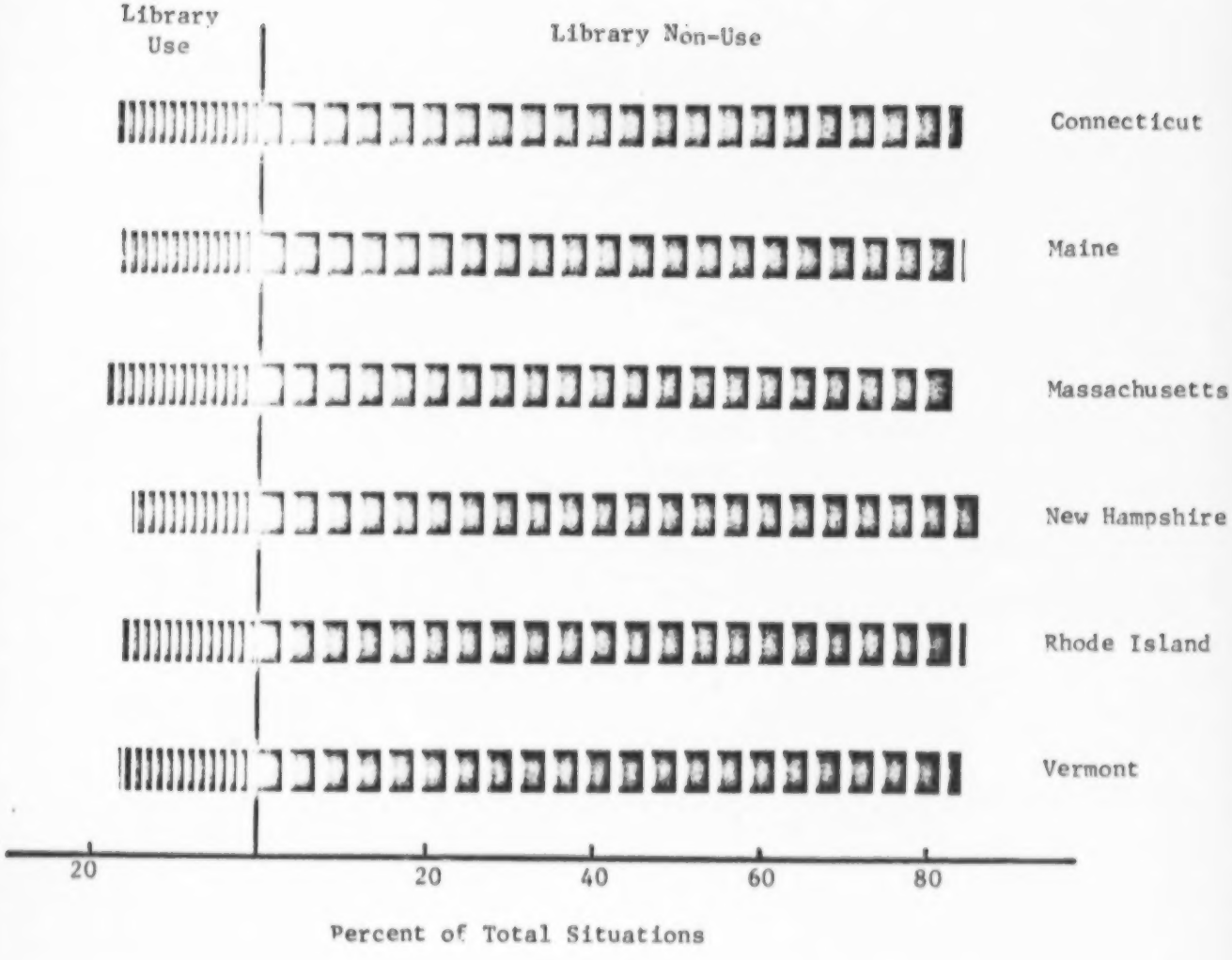


Figure 3-12. Library Use and Non-Use by State

reason(s) for library use. In 86.8 percent of these situations, the value of library holdings was specified as a reason for consulting the libraries. It is beneficial to note that convenience of library location, staff attitude, and staff assistance were negligible factors (4.5% of the situations). These findings did not vary with situations, individual states, or demographic characteristics.

To assist libraries in planning for future programs and services, the general data on situation categories in terms of library use have been further analyzed. Component parts of situation categories have been probed so that those more likely to require library use can be identified.

Library use within major situation categories. Since each of the situation categories contain several component parts, the question becomes whether library use is spread uniformly among the component topics. The following analysis sheds light on the subject by identifying specific patterns of use for the following major situations categories, as were identified in Table 3-18 (see also Figure 3-13):

Consumer Issues

Education and Schooling

Employment -- Getting/Changing Jobs

Health

Housing

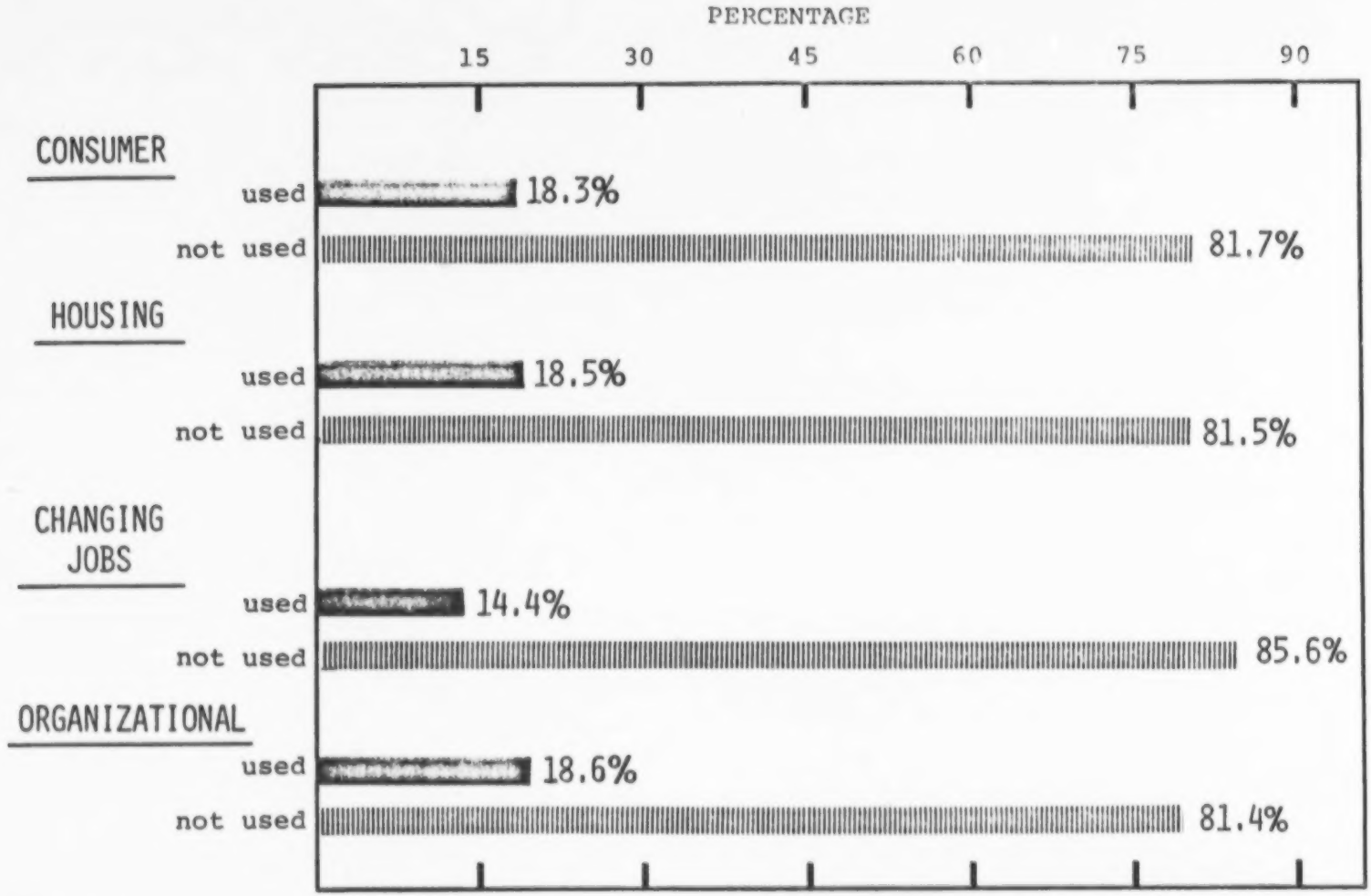
Job-related: Organizational Relations

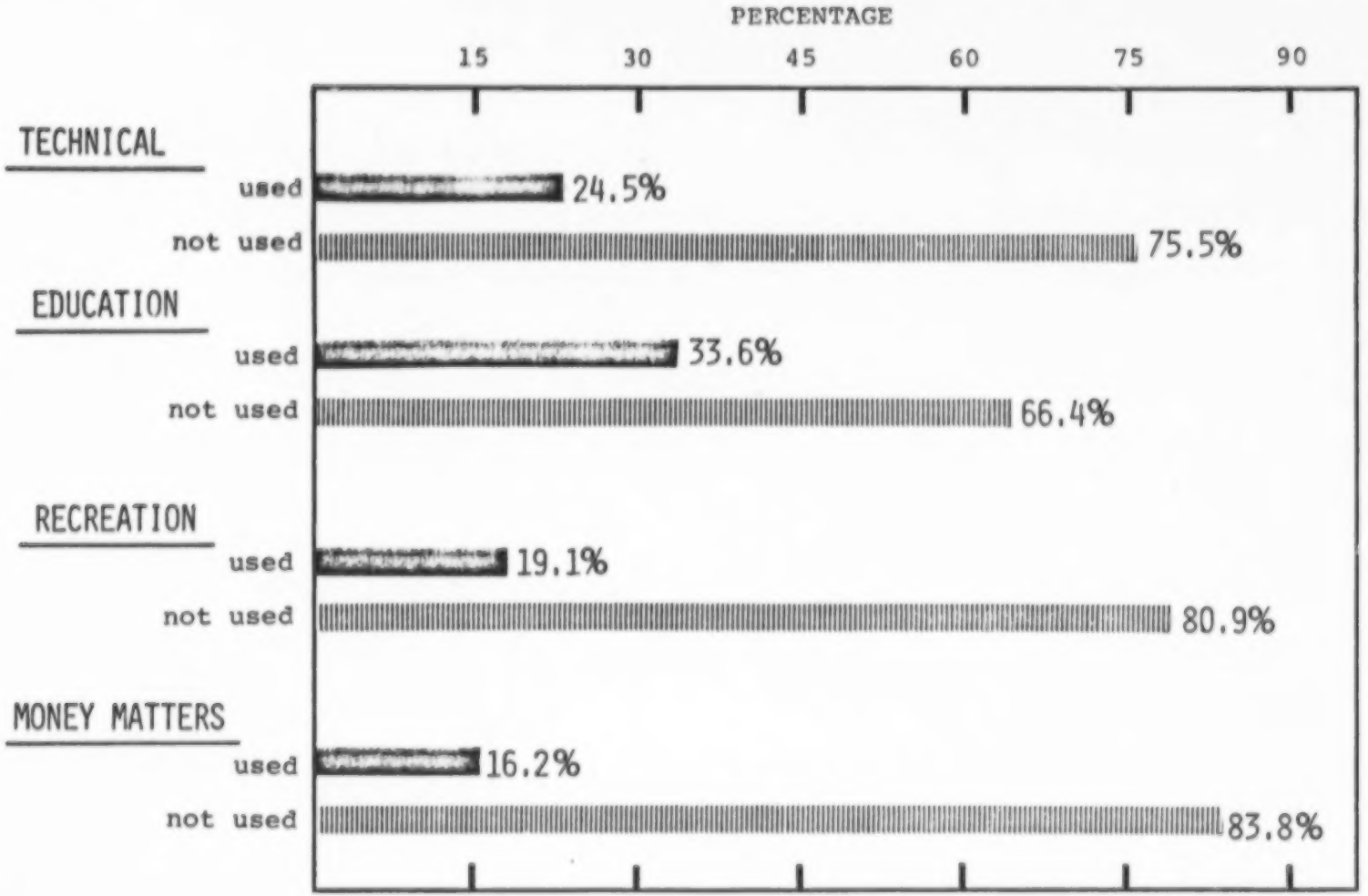
Job-related: Technical

Recreation and Culture

These eight categories accounted for over two-thirds (69.7%) of the situations depicting library use. Viewed from another perspective, 82.2 percent

Figure 3-13. Library Use and Non-Use by Selected Situations




PERCENTAGE
15
30
45
60
75
90
TECHNICAL
used
24.5%
not used
75.5%
EDUCATION
used
33.6%
not used
66.4%
RECREATION
used
19.1%
not used
80.9%
MONEY MATTERS
used
16.2%
not used
83.8%

of the work situations involving library use were covered by these categories, whereas 58.1 percent of the non-work situations are represented. Education, consumer issues, housing, and recreation were primarily non-work related situations, whereas all three job-related categories were heavily work related. As a matter of fact, they accounted for over two-thirds of the work related situations involving library use. Health related issues were almost equally distributed between work and non-work situations.

Table 3-20 summarizes the most frequently mentioned component topics for each of these eight situation categories. Naturally, the getting and changing of jobs reflects a work orientation while health factors can easily relate to either a work or non-work environment. The other categories reflect a heavily non-work emphasis. It might be noted that the demographics as well as the state of residence did not produce statistically significant differences. Additional analysis of these categories will be performed in the section examining library non-use for major situation categories. The purpose here will be to compare component topics for library use and non-use and to determine whether statistically significant differences exist. The research team made a detailed breakdown of library use and non-use by state, but these did not produce statistically significant findings.

Non-use of Libraries

As indicated earlier, libraries were consulted in 17 percent of the total situations described. Details on library non-use by situation can also be found in Table 3-18 and Figure 3-13. Further statistical data on library non-use by demographic characteristics of the respondents and by state of residence can be found in Figures 3-8 through 3-11.

Table 3-20: The Major Topics Involving Library Use Categories

	Mainly Related To:
CONSUMER ISSUES	
Product Information (which products to buy, where to buy them, product price, etc.)	Non-work
Product Quality (fell apart, badly made, problems in making exchanges, getting refunds, or having repairs made, etc.)	Non-work
EDUCATION AND SCHOOLING	
Educational Information (programs should take, credits, opportunities, best schools, how to get education, completion of a school assignment, etc.)	Non-work
EMPLOYMENT -- GETTING/CHANGING JOBS	
Career Decisions	Work
Unemployment (not working now, need job, unemployed, need to know where and how to find work, how to make resume, etc.)	Work
HEALTH	
Availability and Adequacy of Health Care (too few doctors, clinics, care inadequate, etc.)	Work
Physical Health (problems with, etc.)	Both Work and Non-work
Health Information (need information or advice on a a specific health problem or disease, etc.)	Both Work and Non-work
HOUSING AND HOUSEHOLD MAINTENANCE	
Property or House Repairs and Improvement, Maintenance Operation (need to do, get done, know how to do, etc.)	Non-work
JOB-RELATED: ORGANIZATIONAL	
Job Definition	Work
JOB-RELATED: TECHNICAL	
Issues Related to Execution of Specific Job	Work
RECREATION AND CULTURE	
Need for Information on Recreation	Non-work

For those situations in which libraries had not been mentioned as an information source consulted, survey respondents were queried as to the major reasons. Table 3-21 shows that in some 59.1 percent of the situations, reasons for non-use included a conviction that libraries would not be helpful or that consultation was unnecessary. Many indicated that they simply did not think of libraries in the context of their situation. In an additional 10.9 percent of the situations, respondents reported that they already had enough information without turning to the library. This utilization of the institution would not only be pointless, but could also result in an "information overload."

Motivation for not using libraries in the remaining situations (30%) was widely distributed. Lack of time was suggested in only 5.5 percent of the situations. It is encouraging to note that discourteous staff attitude and poor quality of service in general were only mentioned in two situations out of over three thousand. Inconvenient location of the library building, inconvenient library hours and parking facilities, and unsafe location at night were also negligible factors (4.2% of the situations).

Complicating further analysis of the reasons for non-use of libraries is the fact that not all the categories constitute discrete entities with prestated definitions. Often, the responses were unclear or unspecific and could, conceivably, have been logged under multiple categories. Still, the findings indicate that in a substantial number of situations respondents had not thought of libraries within the context of their information needs. Furthermore, although the percentages are small, it might be noted that inconvenient location was mentioned in those situations described by respondents from Maine, Vermont, New Hampshire, and Connecticut. This is not

Table 3-21: Reasons For Non-Use of Libraries

	Number of Situations	Percent of Library Non-Use Situations
Didn't need libraries	769	26.0
Didn't think libraries could help	425	14.4
Had enough information from other sources	322	10.9
Didn't occur to me	285	9.6
No reason given	243	8.2
In the past, I could not find what I want/need; assume the same to be true in this case	208	7.0
Lack of time	163	5.5
Libraries don't own what I want/need	97	3.3
Inconvenient location	93	3.1
Library holdings are not current enough	69	2.3
Assorted miscellaneous	286	9.7

surprising since libraries in Maine, Vermont and New Hampshire are more demographically dispersed than those in other states. Inconvenient hours were most likely suggested by respondents from New Hampshire, Maine, and Massachusetts.

Library non-use within major situation categories. Previous sections have examined library non-use within the context of situation categories both of a work and non-work nature. This part of the chapter, which builds upon the previous section entitled "Library use within major situation categories," compares the component topics of selected major situation categories in order to observe similarities and dissimilarities resulting from a comparison of those situations involving the use and non-use of libraries. For the purpose of analysis, the researchers applied the Spearman Rank Order Coefficient Test so that component topics within situation categories could be ranked according to the frequency of references to library use and non-use, and so that the ranking for library use could be compared to that for library non-use.

Analysis by the Spearman ranking indicated that the degree of agreements varied greatly for the categories of education ($r = .35$), recreation ($r = .77$), consumer issues ($r = .52$), health ($r = .09$), or getting/changing jobs ($r = .58$). In other works, there is similarity between library use and non-use for the situation category of health, whereas recreation reflects much greater differences. Similar differences were found within other work and non-work categories related to library use and non-use.

It is important, however, to keep in mind that for all of these situation categories responses relating to non-use of the library were distributed among all of the component topics whereas use of the library was confined to a few of the topical choices, as shown in Table 3-22. For example, library use

Table 3-22: DETAILED BREAKDOWN OF SITUATIONS RELATED TO LIBRARY USE AND NON-USE

	Library Use+		Library Non-Use	
	WORK	NON-WORK	WORK	NON-WORK
CONSUMER ISSUES				
PRODUCT QUALITY - fell apart, badly made, problems getting exchange or refund or repairs.	X	X	X	X
PRODUCT AVAILABILITY - getting particular sizes, brands, etc.			X	X
PRODUCT INFORMATION - which products to buy, where to buy, product price, etc.	X	*	X	*
BILLING - billed for items/services not received, charged to wrong account, etc.				X
SERVICE AVAILABILITY - inconvenient service, locations, hours cannot find, service unavailability, etc.	X	X		X
SERVICE QUALITY - poor quality of service, etc.			X	X
SERVICE INFORMATION - which service to get, where to get it, service price, etc.	X	X	X	*
PRICES HIGH - cost of living too high, prices go up, prices too high, etc.			X	X
CONSUMER PROTECTION - protection against rip-offs, dishonest merchants, free offers, mail order companies, obnoxious salesmen, harrassment from creditors, etc.				X
OTHER CONSUMER ISSUES	X	X	X	X
HOUSING AND HOUSEHOLD MAINTENANCE				
LOANS AND MORTGAGES - concerns on getting loans and mortgages, financing home improvements, etc.				X
GETTING ANOTHER/BETTER PLACE TO LIVE - dissatisfaction with present housing (rent, landlord, location, etc.) and want a better place			X	*
LANDLORDS - dissatisfaction with rent, maintenance, etc. but no mention of wanting to find a new place	X	X	X	X
PUBLIC HOUSING - getting, changing, repairing (look for mention of public housing)				
BARRIERS TO GETTING NEW HOUSING - high cost, age, children, pets, etc.		X		X

	Library Use+		Library Non-Use	
	WORK	NON-WORK	WORK	NON-WORK
HOUSING INSURANCE - need information, etc.				
SELLING HOUSE, SUB-LEASING - finding buyer, renter, getting dollar return, etc.	X	X	X	X
GETTING EMERGENCY HOUSING - have no place to stay, etc.				
REGULATIONS - rules on home improvements, housing inspection, zoning, installation of house trailiers, etc.				X
UTILITIES SERVICE - complaints or need for information on phone, gas, electric, water, etc.	X	X		X
PROPERTY OR HOUSE REPAIRS AND IMPROVEMENT, MAINTENANCE OPERATION need to do, get done, know how to do, etc.	X	*	X	*
HOUSEKEEPING/DO-IT-YOURSELF PROJECTS -- housebreaking pets, gardening, getting rid of insects, household hints, learning to sew, etc.		X		X
CAR REPAIR, OPERATION, AND MAINTENANCE - maintaining and caring for personal, family car(s), etc.		X		X
OTHER HOUSING ISSUES	X	X	X	X
EMPLOYMENT-GETTING/CHANGING JOBS				
BARRIERS TO GETTING/KEEPING/CHANGING JOBS - age, education veteran, draft status, health, etc.			X	
CHANGING JOBS, GETTING DIFFERENT JOB - looking for new job, different job, etc.			*	X
UNEMPLOYMENT - not working now, need job, unemployed, need to know where and how to find work, how to make resume, etc.	*	X	X	X
SUMMER JOBS - getting, etc.	X	X	X	
CAREER DECISIONS	*	X	X	X
JOB ADVANCEMENT	X	X	X	
OTHER	X	X	X	X

	Library Use +		Library Non-Use	
	WORK	NON-WORK	WORK	NON-WORK
EMPLOYMENT - ORGANIZATIONAL RELATIONS				
JOB DEFINITION	*		*	
RELATIONS WITH SUPERVISORS	X		*	
RELATIONS WITH CO-WORKERS	X	X	*	
OTHER	X		*	X
EMPLOYMENT - TECHNICAL				
ISSUES RELATED TO EXECUTION OF SPECIFIC JOB	*	X	*	X
SETTING UP BUSINESSES	X		X	X
EDUCATION AND SCHOOLING				
ADULT EDUCATION - poor quality, unavailability, need for, etc.	X			
FINANCIAL AID FOR EDUCATION - how to get it, need for, etc.		X	X	X
HIGH COST OF EDUCATION - complaints about, etc.				X
EDUCATIONAL INFORMATION - programs should take, credits, opportunities, best schools, how to get education, etc.	X	*	*	*
EDUCATION SYSTEM - poor quality, fear for children, dissatisfaction, schools going down hill, lack of programs, lack of resources, lack of backing (levy failure), etc.			X	X
PARENT/STUDENT/TEACHER CONFLICT - grade failures, report cards, discipline problems, etc.			X	X
BUSING - complaints about school busing, etc.		X		
PART-TIME JOBS TO SUPPORT EDUCATION - getting jobs specifically to support education, etc.	X	X		X
EDUCATION CERTIFICATION - need to get certification, getting certification cleared, etc.			X	X
OTHER EDUCATION AND SCHOOLING ISSUES	X	X	X	X
HEALTH ISSUES				
MENTAL HEALTH - problems with alcoholism, depression, drug addition, etc.	X	X		X

	Library Use +		Library non-Use	
	WORK	NON-WORK	WORK	NON-WORK
PHYSICAL HEALTH - problems with, etc.	X	X	X	*
HEALTH INSURANCE - complaints and questions about, coverage, high cost, etc.			X	X
COSTS OF HEALTH CARE - too high, doctor's fee, prescription drugs, hospital bills, not enough money to pay for care, etc.		X		X
AVAILABILITY AND ADEQUACY OF HEATLH CARE - too few doctors, clinics, care inadequate, etc.	*	X		X
HEALTH INFORMATION - need information or advice on a specific health problem or disease, etc.	X	X	X	*
GETTING MEDICAL CARE - need information on getting medical, dental, other health care, etc.	X	X	X	X
OTHER MEDICAL ISSUES	X	X	X	X
RECREATIONAL AND CULTURE				
TOO FEW RECREATION OPPORTUNITIES FOR CHILDREN/TEENS - not enough playgrounds, not enough for kids to do, etc.				
TOO FEW RECREATION OPPORTUNITIES FOR ADULTS AND FAMILIES - not enough available, etc.				X
POOR QUALITY OF RECREATION, DESTRUCTION OF, ETC.				
HIGH COST OF RECREATION/ENTERTAINMENT - restaurants, nightclubs, movies, etc.		X		X
NEED FOR INFORMATION ON RECREATION, ETC.		*	X	*
LACK OF SUPERVISION AT PLAYGROUNDS - bullying, fear for children, etc.				
OTHER RECREATION AND CULTURAL ISSUES	X	X	X	X

+Please note that "X" signifies that responses fell into this category, and that "*" indicates that there was a heavy concentration of responses in the category.

within the category of consumer issues can be found in connection with product information, product quality, service availability, and the miscellaneous "other" category. Respondents, however, did not associate library use with product availability, billing, service quality, service information, high prices, or consumer protection. Further comparisons of library use and non-use are self-evident in this table.

These findings suggest that future studies might profitably probe specific component topics in order to examine the availability of library resources for these component topics as well as the currency of the information needed. Awareness of these specific topical areas will also enable libraries to better plan effective publicity and marketing strategies. More about value of the findings of this study will be presented in the next chapter.

Criterion in Information Seeking

Most Important Criterion

Further exploratory analysis was conducted and centered on what respondents perceived to be the most useful characteristics of a source provider. Pursuant to this, study subjects were asked to choose the most important from among five preselected criteria - cost in money or in time, accuracy, understandability, and up-to-dateness of information supplied. Accuracy (27.9%) and understandability (23.6%) were regarded as the most important. Cost in money was third (18.9%), while cost in time comprised 17.1 percent. Up-to-dateness of information supplied was only a minor consideration (6.6%). Incidentally, respondents were not supplied with definitions of each basic criterion. In situations hazed by memory and reported in telephone conversations, the sometimes subtle distinctions between two criteria may become blurred. In situations where these distinctions are particularly fine (such as for up-to-dateness

and accuracy), one criteria may be viewed as a function or subset of another.

Variations for the most important criterion are evident in the combined work and non-work situation categories. Cost in money was paramount in situations involving consumer issues and housing, with accuracy second in importance for consumer issues. Together, cost in money and accuracy were rated as the most significant reasons in 60.2 percent of the situations. In the category of housing, accuracy and understandability were of approximately equal importance; with cost in money, these two accounted for 73.1 percent of all the instances in which a most important criterion was suggested. In situations involving educational issues, accuracy and understandability were favored in 60.7 percent of the instances, while for recreation and money matters, accuracy and cost in money were most important. Table 3-23 (and Appendix IV), which examines only non-work situations, reflects that for some categories, cost in money is of more overall importance than other criteria.

Table 3-24 (and Appendix V), which examines work situations, indicates that accuracy and understandability were the two most highly prized factors. Cost in time, a secondary consideration, was more important in these work situations than it was in non-work situations. Table 3-25 analyzed the most influential items by state and indicates significant differences. Respondents in all states except Maine suggested that accuracy of supplied information was the single factor that played the catalyst role in their choice of source provider. In Maine, the distribution between accuracy and understandability was almost equal. Cost in money and cost in time were mentioned third and fourth most often respectively. Cost in money was cited more frequently by respondents in Connecticut, Maine, and Vermont. In Rhode Island, distribution between the two cost criteria was the same, while for Massachusetts and New Hampshire time was more influential.

Table 3-23. Most Important Factor as Reflected in Each Non-work Situation

	Cost in Money	Cost in Time	Up-to-dateness	Accuracy of Response	Under-standability	Unable to Choose	Row Totals
Consumer Issues	151 (35.1%)	65 (15.2%)	13 (3.1%)	114 (26.6%)	69 (16.1%)	17 (4.0%)	429 (100%)
Housing	108 (40.9%)	37 (13.9%)	7 (2.6%)	43 (16.3%)	46 (17.4%)	23 (8.8%)	264 (100%)
Money Matters	37 (25.8%)	23 (16.3%)	8 (5.4%)	36 (25.2%)	27 (19.1%)	12 (8.3%)	143 (100%)
Education	23 (12.9%)	22 (12.2%)	17 (9.2%)	58 (32.1%)	47 (26.2%)	13 (7.3%)	180 (100%)
Recreation	41 (25.7%)	26 (16.2%)	17 (10.7%)	45 (28.1%)	23 (14.2%)	8 (5.1%)	159 (100%)
Health Issues	11 (9.7%)	24 (20.7%)	11 (9.3%)	37 (31.2%)	26 (21.8%)	9 (7.4%)	118 (100%)
					Total (for all Situations):		1,930

Table 3-24: Most Important Factor As Reflected In Each Work Situation

	Cost In Money	Cost In Time	Up-to-dateness	Accuracy of Response	Understandability	Unable To Choose	Raw Totals
Job-Related: Getting/Changing Jobs	64 (20.2%)	53 (16.8%)	20 (6.5%)	71 (22.3%)	90 (28.5%)	18 (5.6%)	316 (100)
Job-Related: Salary Benefits	24 (19.8%)	20 (16.8%)	4 (3.5%)	36 (30.0%)	30 (24.6%)	7 (5.5%)	120 (100)
Job-Related: Organizational Matters	18 (10.7%)	32 (18.4%)	10 (5.6%)	63 (36.5%)	35 (20.2%)	15 (8.7%)	172 (100)
Job-Related: Technical Issues	29 (6.3%)	105 (23.0%)	23 (5.0%)	162 (35.3%)	103 (22.4%)	37 (8.1%)	458 (100)

Total (For All Situations): 1547 (100%)

Table 3-25: Most Important Factor by Combined Work and Non-Work Situation for Each State

	Cost In Money	Cost In Time	Up-to-dateness	Accuracy Of Response	Understandability	Unable To Choose	Raw Totals
Connecticut	101 (17.4%)	83 (14.2%)	37 (6.4%)	174 (29.9%)	136 (23.3%)	51 (8.8%)	582 (100%)
Maine	115 (22.2%)	73 (14.1%)	28 (5.4%)	125 (24.2%)	130 (25.1%)	46 (8.9%)	516 (100%)
Massachusetts	90 (16.4%)	115 (20.9%)	30 (5.4%)	158 (28.7%)	134 (24.2%)	24 (4.4%)	551 (100%)
New Hampshire	112 (17.9%)	120 (19.1%)	44 (7.0%)	178 (28.3%)	140 (22.3%)	34 (5.5%)	628 (100%)
Rhode Island	113 (18.7%)	113 (18.7%)	33 (5.5%)	177 (29.3%)	129 (21.4%)	39 (6.5%)	603 (100%)
Vermont	125 (20.9%)	90 (15.1%)	37 (6.1%)	160 (26.9%)	150 (25.2%)	34 (5.8%)	596 (100%)
						Total (For All Situations):	3477 (100%)

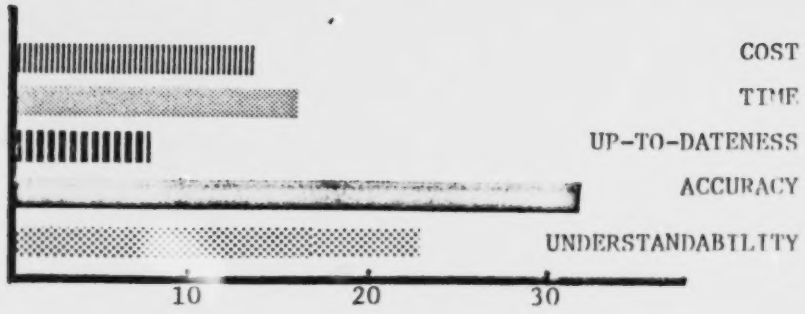
Appendix VI examines all occupational groups on the basis of the criteria. The following graph, Figure 3-14, indicates variations in the relative importance of criteria on the basis of selected groups. Cost was most important for retired persons; other groups substituted either accuracy or understandability. Table 3-26 examines the criteria on the basis of which institutional source was suggested as most helpful. Accuracy was listed by respondents as most important for libraries, professional people, businesses, and government agencies, while understandability rated second in all cases. When social services agencies, charities, or religious organizations were rated as most helpful, understandability and accuracy were cited as the two most influential criteria.

Least Important Criterion

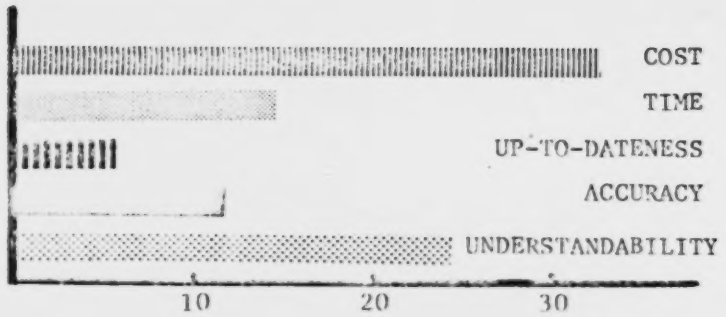
Respondents were also asked to identify the least important criterion for seeking information in a particular situation. When combined work and non-work situations are analyzed, the cost in money (43.1% of the situations) followed by cost in time (29.2%) were mentioned as least important. In the remaining 27.7 percent of the situations, the responses were as follows: understandability (9.2%), up-to-dateness (9.1%), accuracy (3.2%), and inability to select one (6.2%).

Typically, cost in money was least important for non-work situations. As shown in Table 3-27, cost in time was least important for consumer issues, housing, and money matters. In these categories, cost in money was second. A slight shift is evident in occupational situations shown in Table 3-28. Here, cost in money is consistently regarded as a least important consideration in choosing an influential source provider. Cost in time is in second position. The relative positioning of these two depends on

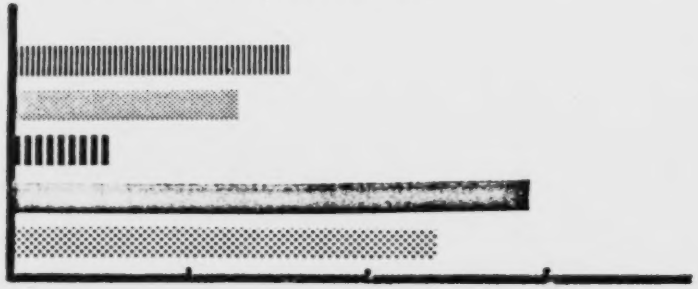
PROFESSIONAL & TECHNICAL WORKERS



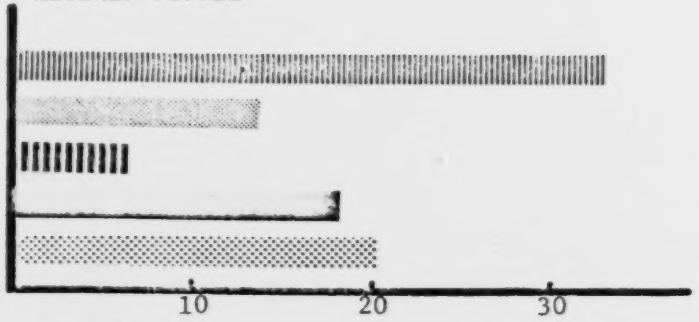
LABORERS (NON-FARM)



MANAGERS & ADMINISTRATORS

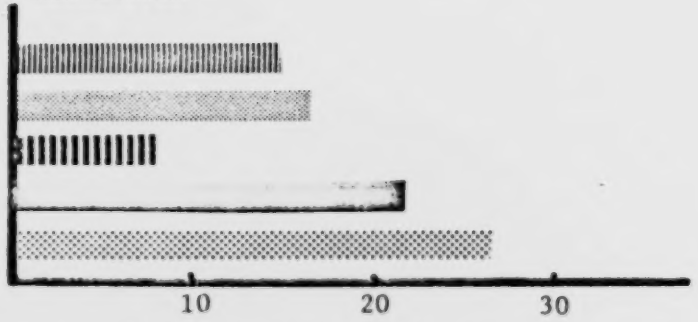


RETIRED PEOPLE



CLERICAL & KINDRED WORKERS

HOUSEWIVES



Percent of Total Situations

Percent of Total Situations

Table 3-26. Most Important Criteria in Comparison to Institutional Sources Suggested as Most Helpful

	Professional People	Businesses and Corporations	Libraries	Government Agencies	Social Service Agencies	Religious People	Other
Cost in money	81 (17.6%)	80 (23.8%)	5 (17.7%)	27 (14.6%)	9 (13.6%)	4 (7.9%)	7 (12.9%)
Cost in time	65 (14.1%)	48 (14.3%)	21 (18.9%)	26 (14.2%)	13 (18.6%)	3 (5.7%)	11 (20.3%)
Up-to-dateness	21 (4.6%)	17 (5.0%)	11 (10.4%)	12 (6.8%)	6 (8.1%)	--	2 (3.7%)
Accuracy of response	161 (35.2%)	91 (26.9%)	43 (39.3%)	57 (31.1%)	17 (25.3%)	9 (19.2%)	18 (33.3%)
Understandability	97 (21.2%)	76 (22.5%)	23 (21.0%)	47 (25.7%)	21 (29.8%)	28 (61.4%)	17 (31.4%)
Unable to choose	34 (7.4%)	25 (7.4%)	6 (5.8%)	14 (7.6%)	3 (4.6%)	3 (5.7%)	1 (1.8%)
COLUMN TOTALS:	459 (13.3%)	337 (9.8%)	110 (3.2%)	182 (5.3%)	69 (2.0%)	45 (1.3%)	54 (1.3%)

Table 3-27: Least Important Factor as Reflected in Each Non-Work Situation*

	Cost in Money	Cost in Time	Up-to-dateness	Accuracy of Response	Understandability	Unable to Choose	Totals**
Consumer Issues	121 (28.3%)	178 (41.9%)	45 (10.6%)	9 (2.2%)	59 (13.8%)	14 (3.3%)	426 (22.2%)
Housing	52 (20.1%)	96 (37.1%)	29 (11.3%)	10 (3.9%)	43 (16.6%)	29 (11.1%)	260 (13.5%)
Education	89 (49.4%)	59 (32.9%)	12 (7.0%)	4 (2.5%)	8 (4.5%)	7 (3.8%)	180 (9.3%)
Recreation	61 (38.2%)	52 (32.5%)	8 (5.0%)	11 (7.0%)	19 (11.7%)	9 (5.6%)	159 (8.3%)
Health	70 (59.3%)	30 (25.4%)	4 (3.4%)	4 (3.3%)	7 (6.0%)	3 (2.5%)	118 (6.1%)
Money Matters	45 (31.1%)	47 (32.9%)	10 (7.3%)	7 (4.6%)	26 (18.1%)	9 (6.0%)	144 (7.5%)
					Total for all Non-work Situations		1925 (100.0%)

* Appendix VII covers all situation categories.
**Percentages have been rounded to nearest whole number.

Table 3-28: Least Important Factor as Reflected in Each Work Situation*

	Cost in Money	Cost in Time	Up-to-dateness	Accuracy of Response	Understandability	Unable to Choose	Totals**
Job-related: getting/changing jobs	123 (39.0%)	98 (31.0%)	37 (11.8%)	13 (4.1%)	32 (10.2%)	12 (3.9%)	316 (20.4%)
Job-related: technical issues	269 (58.6%)	84 (18.2%)	30 (6.5%)	6 (1.3%)	32 (7.0%)	38 (8.3%)	460 (29.7%)
Job-related: organizational matters	89 (52.3%)	41 (23.8%)	16 (9.6%)	5 (2.9%)	9 (5.5%)	10 (6.0%)	171 (11.0%)
Job-related: Salary and benefits	55 (45.9%)	32 (26.8%)	14 (11.5%)	3 (2.5%)	7 (6.0%)	9 (7.4%)	120 (7.8%)
Education	27 (44.3%)	17 (28.3%)	4 (6.2%)	4 (6.2%)	6 (10.4%)	3 (4.6%)	61 (4.0%)
					Total of All Work Situations		1548 (100.0%)

* Appendix VIII covers all situation categories.

**Percentages have been rounded to nearest whole number.

situation categories in a non-work environment. Viewing the data on the basis of individual states and demographic variables do not significantly alter the findings concerning most and least helpful source providers. Thus, it would seem that in situations arising from occupational context, the cost of consulting an influential source provider in terms of both time and money, is as a relatively unimportant consideration; except for certain occupational groups such as retired people and housewives. In these cases, cost in money becomes rather crucial.

Paired Comparisons of Information Seeking Criteria

After selecting the most and least important criteria, the respondents examined the five criteria through a series of paired comparisons. The purpose of these questions was to determine which criteria were major factors in given situations. Respondents were asked if they were more concerned with the amount of time consumed in the search for information or the cost in money. For combined work and non-work situations, time was overwhelmingly emphasized (52.2% of the situations) with the cost cited in 30.1 percent of the situations. The remaining 17.7 percent was distributed thusly: equal importance (6.6%), neither was a major concern (8.5%), and unable to select one (2.7%). The cost in time, as shown in Table 3-29 was more important in situations involving job-related categories, education, recreation, money matters, and health issues. The cost in money was more important for consumer and housing issues.

Respondents were next asked to select between cost in money or understandability of the answer. In this second paired comparison, understandability was heavily favored. In the situations displayed in Table 3-30, understandability was considered as a more useful characteristic of an

Table 3-29: Paired Comparisons for "Cost in Time" and "Cost in Money" for Each Situation Category (Combined Work and Non-work Situations)

	Cost in Time	Cost in Money	Of Equal Importance	Neither is Important	Unable to Choose	Totals*
Job-related: Technical Issues	321 (68.4%)	76 (16.2%)	35 (7.4%)	28 (5.9%)	10 (2.1%)	469 (13.5%)
Consumer Issues	186 (39.9%)	232 (49.7%)	19 (4.1%)	22 (4.6%)	8 (1.7%)	466 (13.4%)
Job-related: Getting/Changing Jobs	170 (48.9%)	112 (32.3%)	27 (7.8%)	29 (8.5%)	9 (2.5%)	347 (10.0%)
Education	141 (58.7%)	59 (24.7%)	11 (4.8%)	21 (8.9%)	7 (2.9%)	240 (6.9%)
Housing	94 (33.2%)	146 (51.5%)	20 (7.0%)	15 (5.4%)	8 (2.9%)	283 (6.2%)
Job-related: Organizational Matters	98 (55.8%)	31 (17.7%)	19 (11.0%)	20 (11.4%)	7 (4.0%)	175 (5.0%)
Recreation	93 (53.1%)	53 (30.2%)	10 (5.8%)	13 (7.2%)	6 (3.7%)	174 (5.0%)
Money Matters	78 (44.8%)	74 (42.3%)	11 (6.2%)	5 (3.1%)	7 (3.7%)	174 (5.0%)
Health Issues	101 (64.7%)	22 (14.1%)	4 (2.4%)	24 (15.5%)	5 (3.2%)	156 (4.5%)
					Total (for all Situations):	3477 (100.0%)

*Percentages have been rounded to nearest whole number

Table 3-30: Paired Comparison for "Cost in Money" and "Understandability" for Each Situation Category (Combined Work and Non-Work Situations)

	Cost in Money	Understand-Ability	Of Equal Importance	Neither is Important	Unable to Choose	Totals*
Job-related: Technical Issues	69 (14.7%)	357 (76.2%)	14 (3.0%)	19 (4.1%)	10 (1.9%)	469 (13.5%)
Consumer Issues	188 (40.3%)	242 (52.1%)	17 (3.8%)	12 (2.7%)	5 (1.2%)	465 (13.4%)
Job-related: Getting/ Changing Jobs	97 (27.9%)	211 (60.7%)	13 (3.6%)	16 (4.5%)	12 (3.2%)	348 (10.0%)
Education	32 (13.2%)	186 (77.4%)	8 (3.3%)	6 (2.5%)	9 (3.6%)	240 (6.9%)
Housing	113 (40.0%)	135 (47.5%)	14 (4.9%)	12 (4.1%)	9 (3.5%)	284 (8.2%)
Job-related: Organizational Matters	28 (16.0%)	122 (69.9%)	4 (2.1%)	10 (6.0%)	11 (6.0%)	175 (5.0%)
Recreation	53 (30.5%)	97 (55.6%)	4 (2.5%)	14 (7.8%)	6 (3.6%)	174 (5.0%)
Money Matters	55 (31.6%)	105 (60.1%)	6 (3.3%)	4 (2.5%)	5 (2.4%)	174 (5.0%)
Health Issues	20 (13.0%)	117 (75.1%)	5 (3.3%)	12 (7.6%)	2 (1.0%)	156 (4.5%)
					Total (for all Situations):	3477 (100.0%)

*Percentages have been rounded to nearest whole number.

information source provider. Likewise, indeed to an even greater degree, understandability was prized in occupational situations as is illustrated in Table 3-31. Even though understandability was also first in the non-work environment, Table 3-32 indicates that percent differences between cost in money and understandability were smallest for consumer issues and housing.

For the final paired comparison, respondents chose between the time it took and understandability. In over half of the situations (56.7%), respondents again emphazised understandability. Time was suggested as the major concern in 30.9 percent of the situations, with the remaining 12.4 percent distributed among the other categories. As shown in Table 3-33, understandability was favored for the entire range of situation categories; the sole exception was transportation where the pair was equal. It should be noted that although understandability was listed more frequently than any other single category, for recreational related situations, cost in time, when arrayed with the other miscellaneous categories, approximates that of understandability. This finding might suggest that understandability may not have quite the importance for this situation as is initally indicated here.

CONCLUSION

Regardless of situation category, respondents preferred information gathered through interpersonal channels. Presumably, the printed information they consulted often came from friends, co-workers, their own personal collections, or institutional sources other than libraries. Secondly, respondents often had not thought of libraries in the context of their information need or, if they had considered libraries, they dismissed this

Table 3-31: Paired Comparison for "Cost in Money" and "Understandability" for Each Situation Category (Work Situations)

	Cost in Money	Understand-Ability	Of Equal Importance	Neither is Important	Unable to Choose	Totals*
Job-related: Technical Issues	68 (14.8%)	351 (76.1%)	14 (3.1%)	19 (4.0%)	10 (2.0%)	461 (29.8%)
Job-related: Getting/ Changing Jobs	88 (27.8%)	191 (60.4%)	12 (3.8%)	16 (5.0%)	10 (3.0%)	316 (20.4%)
Job-related: Organizational Matters	28 (16.2%)	119 (69.4%)	4 (2.2%)	10 (6.1%)	11 (6.1%)	172 (11.1%)
Job-related: Salary and Benefits	26 (21.9%)	85 (70.6%)	4 (3.7%)	3 (2.1%)	2 (1.7%)	120 (7.8%)
Education	9 (14.8%)	49 (79.5%)	1 (1.0%)	1 (2.4%)	1 (2.3%)	61 (4.0%)
					Total (for all Work Situations):	1550 (100.0%)

*Percentages have been rounded to nearest whole number.

Table 3-32: Paired Comparisons for "Cost in Money" and "Understandability" for Each Situation Category (Non-Work Situations)

	Cost in Money	Understand-Ability	Of Equal Importance	Neither is Important	Unable to Choose	Totals*
Consumer Issues	178 (41.5%)	218 (50.9%)	15 (3.5%)	12 (2.8%)	5 (1.3%)	428 (22.2%)
Housing	104 (40.0%)	124 (47.6%)	14 (5.4%)	10 (3.9%)	8 (3.2%)	260 (13.5%)
Education	23 (12.7%)	137 (76.7%)	7 (4.0%)	4 (2.5%)	8 (4.1%)	178 (9.3%)
Recreation	52 (32.5%)	86 (54.0%)	4 (2.8%)	14 (8.5%)	4 (2.3%)	159 (8.3%)
Money Matters	48 (32.6%)	86 (58.7%)	4 (2.8%)	4 (3.0%)	5 (3.4%)	146 (7.6%)
Health	17 (14.6%)	88 (74.6%)	5 (4.4%)	7 (6.4%)	---	118 (6.1%)
					Total (for all Situations):	1927 (100.0%)

*Percentages have been rounded to nearest whole number.

Table 3-33: Paired Comparison for "Cost in Time" and "Understandability" for Each Situation Category (Combined Work and Non-Work Situations)

	Cost in Time	Understand-Ability	Of Equal Importance	Neither is Important	Unable to Choose	Totals*
Job-related: Technical Issues	153 (32.6%)	263 (56.0%)	38 (8.1%)	6 (1.3%)	10 (2.0%)	469 (13.5%)
Consumer Issues	163 (35.0%)	258 (55.3%)	20 (4.2%)	20 (4.4%)	5 (1.1%)	466 (13.4%)
Job-related: Getting/ Changing Jobs	107 (30.7%)	191 (54.9%)	21 (6.2%)	14 (4.0%)	14 (4.0%)	348 (10.0%)
Education	69 (28.8%)	152 (63.5%)	10 (4.3%)	3 (1.4%)	5 (2.1%)	240 (6.9%)
Housing	98 (34.6%)	140 (49.3%)	19 (6.8%)	15 (5.1%)	11 (3.9%)	284 (8.2%)
Job-related: Organizational Matters	49 (28.0%)	98 (56.2%)	15 (8.6%)	5 (2.7%)	8 (4.6%)	175 (5.0%)
Recreation	68 (38.9%)	84 (48.2%)	8 (4.8%)	8 (4.5%)	6 (3.7%)	174 (5.0%)
Money Matters	63 (36.2%)	94 (53.9%)	8 (4.8%)	5 (2.8%)	5 (2.8%)	174 (5.0%)
Health Issues	44 (28.1%)	96 (61.8%)	6 (4.2%)	8 (4.9%)	2 (1.0%)	156 (4.5%)
					Total (for all Situations):	3479 (100.0%)

*Percentages have been rounded to nearest whole number.

avenue because an abundance of information had been gathered from other sources. Libraries, as is evident, are not utilized to their potential. Their use centers primarily within specific situation categories and certain socio-economic groups. Libraries, therefore, are not reaching all the citizenry and, in fact, respondents may have regarded them more as collections of books and periodicals than as purveyors of information.

Regardless of situation category, respondents were, on the whole, satisfied with the source providers consulted. Even if there was dissatisfaction, they were as likely as not to consult that least helpful source again if a similar situation arose. Changing search strategies will not be an easy process, and awareness that libraries contain relevant information will probably not significantly increase library use. Better public relations with library users and better marketing of library services than what now occurs certainly could help to promote the utility of existing library services and programs. However, it is probable that these activities alone will not substantially change the picture. Libraries need to determine their role in the information seeking processes of citizens and to cooperate more fully with other institutional source providers, so that citizens, as well as other source providers, begin to associate libraries more broadly with the provision of information and referral services.

Chapter 4 summarizes the major findings of the study and notes which hypotheses were significant and which ones were not. In addition, the chapter compares findings of the New England study to previous, related investigations. In particular, comparison is made to the Baltimore,[3] Seattle,[4] and California[5] studies.

NOTES

1. This scheme was suggested by King Research, Inc., Rockville, MD at the time of the development of the survey instrument.
2. The coding was based upon the scheme continued in Vernon E. Palmour et al, Information Needs of Californians: Technical Report. Rockville, MD: King Research, Inc., 1979.
3. Edward S. Warner, et al, Information Needs of Urban Residents. Baltimore, MD: Regional Planning Council, 1973. (ED 088-464).
4. Brenda Dervin, et al, The Development of Strategies for Dealing with the Information Needs of Urban Residents. Phase I. Citizen Study. Seattle, WA: School of Communication, University of Washington, 1976. (U.S. Office of Education).
5. Vernon E. Palmour, et al, Op. Cit.

CHAPTER 4

COMPARISON TO PREVIOUS STUDIES

The previous chapter has presented the major findings obtained in the course of our investigation. Certain of these findings can be cautiously compared to related, previous studies. This chapter, therefore, relates our findings to those studies of information seeking and source utilization which are directly pertinent to the concerns of this inquiry.

The major factors addressed in this study are: 1) the characteristics of those people seeking information resolution, 2) the situations in which they require information, and 3) the sources consulted for information resolution. As previously indicated, interviews with 2,400 New England residents generated a total of 3,530 situations in which information might have been sought. The number of situations reported in our study per respondent was 1.6 situations. This, on the surface, was considerably less than those reported in several related studies, most notably that by Warner, et al[1] in which a mean of 4.95 informational situations were reported.

Yet, it must be remembered that respondents in our study were limited to specifying not more than two situations (one work-related and one in a non-work area), while the Warner study did not place a numerical limit on the situations identified. Thus, the two figures

are not really comparable. Situations reported by respondents, especially elderly and homemaker segments of the sample, were more likely to fall into non-occupationally related areas. These respondents did not view themselves as incorporating work related situations. For example, in a number of instances retired persons wanted to recall work-related situations from their previous employment.

PROFILE OF RESPONDENTS

While a wide variety of situations were identified, there was considerable variation in the characteristics of those who were able to relate a situation. The relationship between age and occupational status to the inability to cite occupationally related situations was noted in Chapter 3. To a certain extent, this inability to convey work situations may have been controlled through the use of nouns other than "work," for example when querying subjects, particularly homemakers, about occupation related situations. Yet, a not insignificant proportion of potential respondents contacted for this study (approximately 1 out of every 5 households willing to participate) were unable to articulate even <u>one</u> situation. While this group (502 individuals) was not statistically disproportionate in terms of its sex, such factors as geographic situs, level of education, age and income appear to be significant factors for situation articuation. This finding, which was discussed in the previous chapter, is similar to evidence gathered from previous investigations,[2] in that individuals who might be presumed to have pressing areas of information need (e.g., the poor,the elderly, the less-well educated) actually demonstrate less of a tendency to articulate situations in either their work or non-work related life areas.

Information seeking patterns have been hypothesized in our study as

related to the socio-economic characteristics of the individual. Hence, it has been posited that those individuals who are more highly educated, wealthier, and of higher occupational status would be more sophisticated in both their ability to articulate situations, and the sources they consult in those circumstances. In that regard, a summary of the study's major findings concerning source providers is presented here.

Overall, one striking pattern manifests itself with respect to the information seeking strategies of the respondents to our inquiry; they tend to use interpersonal sources of information over institutional and mass media channels. This pattern holds for all categories of situation types as well as across both occupational and non-occupational lines. This finding is consistent with all other studies of source provider preference.[3] To summarize the finding, individuals prefer interpersonal sources possibly due to the availability of feedback that is either limited or lacking in the case of institutional or mass media providers. More often than not, interpersonal sources are "known" to the information seeker, and hence are felt to be more readily approachable as well as more readily apparent as a potential information source. Yet, as Warner has noted, preference for interpersonal source utilization may, in fact, detract from the effectiveness of information need resolution to the extent that the information seeker is unable to pinpoint the person who might provide the most relevant, pertinent, and accurate information.[4] One additional factor has likewise been noted as a possible explanation of interpersonal source preference among information seekers: the "law of least effort." As Alexander[5] and others have discovered, there is a tendency to rely on those sources that are more physically or psychologically accessible rather than to compare and

contrast the effectiveness of information provided by a broader range of sources. In brief, then, preference for interpersonal source utilization is an almost universal phenomenon in the information seeking act. Yet, the effectiveness of such source utilization appears to be a function of the ability of the searcher to identify the appropriate individual or group most responsive to the expressed need.

One indication of the effectiveness of various categories of source providers can be found in the analysis of the perceived level of satisfaction when compared with the obtained information. While the design of this present inquiry did not allow for a detailed and complete examination of the sequence and pattern inherent in each and every source consulted, some measure of source provider effectiveness becomes evident from analysis of those sources labeled "most" and "least" helpful.

Interpersonal sources ranked higher than did institutional and mass media providers among those sources deemed "most helpful." It is interesting to note the relative infrequency with which mass media providers were suggested for all categories. Perhaps this phenomenon reflects the virtually non-existent opportunity for two-way communication between the mass media source provider and the information seeker. Because of this condition, there exists little opportunity for problem specification and formulation when this source is relied upon in a given situation.

Analysis of "least helpful" source providers shows on the surface that respondents were satisfied with interpersonal sources. Yet, a more detailed examination of the statistics, one taking into account the total percentage of respondents citing the least helpful source, reveals among other things, that respondents were, proportionally speaking, reasonably

satisfied with their own past experience as a source provider. Given the tendency to seek information from sources providing the most timely, pertinent, and relevant response, individuals relied on their own resources for identification of an alternate source unless they were "linked" by the first contact to another provider. Studies investigating information seeking behavior imply that such a linkage process is of particular advantage for people who rank lowest on the socio-economic spectrum.[6]

To the extent that unfamiliarity with the appropriate source exists, one might suspect that there is a relatively high degree of dissatisfaction with the information provided by the consulted interpersonal source. This phenomenon, which appears in our study, is consistent with the findings of Warner and others.[7] Institutional source provision ranked significantly behind interpersonal source providers, yet ahead of mass media channels of information, in terms of expressed dissatisfaction. Notable in this regard is the tendency of the least helpful institutional source not to provide referrals to other providers. This characteristic might be explicable for interpersonal "least helpful" sources, in light of the possible lack of knowledge on the part of the individual consulted. Further, the lack of feedback mechanisms provided by channels of mass media render such referral difficult for a particular situation. Still, the failure of institutional sources deemed least helpful to suggest alternative courses of action provides potential cause for concern as to the effectiveness of such providers in the overall information environment.

On the other hand, the "most helpful" source also did not provide any referral. It is important to keep in mind, however, that the methodology

employed in this study did not enable an examination of the sequence of respondents' negotiation of the information environment. Although the data does not enable us to state categorically that the most helpful source provided the "final" answer to the seeker's satisfaction, it could be inferred that a source providing referral would not be suggested as "most helpful;" respondents probably equate "helpfulness" with the provision of information demanded by the situational context. Similarly, the least helpful provider would probably not be one that provided a useful and pertinent referral; hence the tendency for a small incidence of referrals from sources so labeled.

In those situations in which libraries were used, similar patterns prevailed. Staff members frequently did not engage in referral, and apparently respondents also did not know to expect such a service. Most likely, libraries were consulted when respondents knew or suspected that library holdings would be helpful. In those cases in which libraries were not consulted, it was largely due to a perception about libraries and the relevance of their holdings in comparison to information provided through other channels. Moreover, respondents frequently did not think of libraries when they wanted to consult institutional sources. An important secondary reason for library non-use was that respondents believed they already had gathered enough information; consulting libraries would only overload them with information. Location of libraries in relation to home or work, as well as staff attitudes and services, were not regarded as significant reasons for using or not using libraries.

It might be noted that in approximately 60 percent of the situations described in the Seattle study, respondents were unlikely to consult libraries for information resolution. Viewed another way, in less than

20 percent of the situations were they highly likely to consult libraries.[8] These findings suggest that people often do not associate libraries with the resolution of particular information needs. Generating more extensive use of libraries may require the development of techniques other than just public relations and marketing. It cannot be assumed that a process by which greater awareness of libraries and their resources is generated, automatically results in greater use, although it is safe to say that public relations and marketing of library services should not have an adverse effect.

As an aid for further summarizing the results of the study, Table 4-1 highlights which of those hypothesis presented in Chapter 2 conveyed statistical significance and for which variable.

Geographic situs does not significantly affect patterns of information seeking by individuals. Similarly, educational level of respondents fails to relate significantly to such patterns. Occupational status of respondents is significantly related to the ability to articulate situations for certain groups. Income level serves as a predictor only in relation to specification of information requirement for consumer issues and getting/changing jobs, while age level is significantly related to information need articulation in both work and non-work situation categories.

Table 4-1.

Summary of Hypotheses and Significance at .05 Level
(All Hypotheses Tested Using Chi-Square Test for Ordinal-Level Data)

HYPOTHESIS	SIGNIFICANCE
1. Relationship between Socio-Economic Status, Age and Geographic Situs, and Situation Articulation	
• Relationship between income level of respondent and ability to articulate situations	*None*
• Relationship between educational level of respondent and ability to articulate situations	*None*
• Relationship between occupational status of respondent and ability to articulate situations	*For retired respondents - less likely to articulate information need in both contexts* (Hypothesis Rejected)
• Relationship between age of respondent and ability to articulate situations	*For respondents over 55 years of age - less likely to articulate information need in both contexts* (Hypothesis Rejected)
• Relationship between geographic situs of respondent and ability to articulate situations	*None*
2. Relationship between Context (Work and Non-Work) of Information Need and Situation Articulation	
• Relationship between income level of respondent and ability to articulate situations in both work and non-work contexts	*None*
• Relationship between educational level of respondent and the ability to articulate situations in both contexts	*None*
• Relationship between occupational status of respondent and the ability to articulate situations in both contexts	*For retired, unemployed, housewives, laborers, and clerical workers - less likely to articulate information needs in occupational context* (Hypothesis Rejected)

Table 4-1 (con't.)

HYPOTHESIS	SIGNIFICANCE
• Relationship between age of respondent and ability to articulate situations in both contexts	*For respondents over 55 - less likely to articulate information needs in two contexts* (Hypothesis Rejected)
• Relationship between geographic situs of respondent and ability to articulate situations in both contexts	*None*
3. Relationship between Situation Category Within Work and Non-Work Context and Demographic Characteristic of Respondents	
• Relationship between income level of respondent and tendency to specify particular situations within context	*For those lower in income - more likely to cite a) Consumer Issues and b) Getting Jobs as information requirements* (Hypothesis Rejected)
• Relationship between educational level of respondents and tendency to specify particular situations within context	*None*
• Relationship between occupational status of respondent and tendency to specify particular situations within context	*For the following groups - more likely to cite requirements listed:* *a) Clerical Workers - Getting/Changing Jobs* *b) Students - Education* *c) Housewives - Consumer Issues and Housing* *d) Retired - Consumer Issues and Housing* (Hypothesis Rejected)
• Relationship between age of respondent and tendency to specify situations within context	*None*
• Relationship between geographic situs of respondent and tendency to specify particular situations within context	*None*
4. Relationship between Number of Sources Used and Demographic Characteristics of Respondents	

Table 4-1 (con't.)

HYPOTHESIS	SIGNIFICANCE
• Relationship between income level of respondent and number of sources used	*None*
• Relationship between educational level of respondent and number of sources used	*None*
• Relationship between occupational level and number of sources used	*None*
• Relationship between age level of respondent and number of sources used	*None*
• Relationship between geographic situs of respondent and number of sources used	*None*
5. Relationship between Category of Source(s) Utilized (Interpersonal, Institutional, or Mass Media) and Demographic Characteristics of Respondents	
• Relationship between income level of respondent and category of source(s) used	*None*
• Relationship between education level of respondent and category of source(s) used	*None*
• Relationship between occupational level of respondent and category of source(s) used	*None*
• Relationship between age level of respondent and category of source(s) used	*None*
• Relationship between geographic situs of respondent and category of source(s) used	*None*
6. Relationship between Tendency to Use a Library and Demographic Characteristics of Respondents	
• Relationship between income level of respondent and use of a library as a source	*None*
• Relationship between educational level of respondent and use of a library as a source	*None*
• Relationship between occupational level of respondent and use of a library as a source	*None*
• Relationship between age level of respondent and use of a library as a source	*None*
• Relationship between geographical situs of respondent and use of a library as a source	*None*

Table 4-1 (con't.)

HYPOTHESIS	SIGNIFICANCE
7. Relationship between Level of Satisfaction with Source Provider Deemed "Most Helpful" and Demographic Characteristics of Respondents	
• Relationship between income level of respondent and level of satisfaction with most helpful source provider	*None*
• Relationship between educational level of respondent and level of satisfaction with the most helpful source provider	*None*
• Relationship between occupational level of respondent and level of satisfaction with the most helpful source provider	*None*
• Relationship between age level of respondent and level of satisfaction with the most helpful source provider	*None*
• Relationship between geographic situs of respondent and level of satisfaction with the most helpful source provider	*None*
8. Relationship between Level of Satisfaction with Source Provider Deemed "Least Helpful" and Demographic Characteristics of Respondents	
• Relationship between income level of respondent and level of satisfaction with the least helpful source provider	*None*
• Relationship between educational level of respondent and level of satisfaction with the least helpful source provider	*None*
• Relationship between occupational level of respondent and level of satisfaction with the least helpful source provider	*None*
• Relationship between age level of respondent and level of satisfaction with the least helpful source provider	*None*
• Relationship between geographic situs of respondent and level of satisfaction with least helpful source provider	*None*
9. Relationship between Barriers to Effective Information Seeking and Demographic Characteristics of Respondents	

Table 4-1 (con't.)

HYPOTHESIS	SIGNIFICANCE
• Relationship between income level of respondent and barriers to effective information seeking	*None*
• Relationship between educational level of respondent and barriers to effective information seeking	*None*
• Relationship between occupational level of respondent and barriers to effective information seeking	*None*
• Relationship between age level of respondent and barriers to effective information seeking	*None*
• Relationship between geographic situs of respondent and barriers to effective information seeking	*None*

COMPARISON OF FINDINGS TO PREVIOUS STUDIES

Overview

As has already been suggested, the findings of this study, in a general sense, are similar to those of other investigations into the information seeking behavior of members of the general population. Still, there are several major methodological points of departure between our study and the Baltimore, Seattle and California studies.[9-11] The most notable of these is to be found in the "channeling" of the interview into work and non-work contexts. This process afforded the opportunity to elicit a broader range of situation categories than those arrived at by the aforementioned studies. Thus, fewer instances of situtations of a personal, "coping" nature were found than was the case in these prior investigations.

In comparing data generated from our study with those elicited from previous studies of similar topics, it is important to caution that situation categories are not precisely comparable. Even though this study drew, in large measure, upon coding schemes employed in previous studies, particularly the California one, individual differences do exist within broad situation categories. Hence, in any effort to ascertain the comparability of our categories with those of the studies compared in this chapter, the coding scheme for categories (see Appendix III) must be kept in mind. In addition, any assessment of comparability must first focus upon the methodological approach that formed the context of this study. The Seattle and California ----------->

studies focused upon the questions which arose in the search for information. Information needs, therefore, are viewed in the context of such questions as "what are my own motives, feelings, or reasons?"[12] Our investigation, on the other hand, concentrated on situations and was unwilling to label these questions as information needs. As found in the interview process, not every situation results in a need for information.

Situation Categories

Even though Code categories for our study do not fully correspond to those prepared for all other, related investigations, they do show similarities. It is also important to remember that our study is the first to insure and adequate sample of work situations. All previous studies included only a small number of work situations. Hence, many of the categories presented in these other studies are not directly comparable. With that caveat in mind, Table 4-2 reflects areas of correspondence and divergence.

"Consumer issues" rated high for all four studies being compared. Except for the Seattle study, this situation category placed first or second. The category of "money matters" was the highest for the California study and of lesser importance for the New England study. "Neighborhood issues," on the other hand, although it was first for the Baltimore study, was of marginal importance for the New England study; in fact, it belongs to the "other" grouping. "Health matters" placed third for the Seattle study and fourth for the California study, but ranked lower for the other two studies. "Child care, family and personal issues" were the highest for the Seattle study. Other studies did not use the identical category; nonetheless, component parts of the category can be found in other categories. For New England, child care, family and personal matters were also of lesser importance; they placed in the 2 percent range of non-work situations. Incidentally, the percentages for "education" among the four studies was approximately the same.

Table 4-2: Comparison of Situation/Category Distribution Among Four Studies
(situation categories as ranked in percent order)

SEATTLE[1]		BALTIMORE[2]		CALIFORNIA[3]		NEW ENGLAND	Non-Work*	(Work*, Total)*
Childcare, Family and Personal	(17.3)	Neighborhood	(16.0)	Money Matters	(10.2)	Consumer Issues	22.2	(2.3, 13.3)
Employment	(11.6)	Consumer	(13.0)	Consumer Issues	(10.1)	Housing and Household Maintenance	13.6	(1.5, 8.2)
Health	(10.7)	Housing and Household Maintenence	(13.0)	Housing or Home Care	(9.7)	Education and Schooling	9.2	(3.9, 6.9)
Consumer	(8.2)	Crime and Safety	(10.0)	Health Issues	(9.5)	Recreation	8.3	(0.9, 5.0)
Education and Schooling	(8.0)	Education	(7.0)	Job-related Issues	(9.4)	Money Matters	7.4	(1.9, 5.0)
Financial Matters Assistance	(7.8)	Employment	(6.0)	Transportation	(7.8)	Health Issues	6.0	(2.4, 4.4)
Crime and Safety	(7.6)	Transportation	(6.0)	Education	(7.0)	Personal Relations	4.7	(0.3, 2.8)
Neighborhood	(5.5)	Health	(6.0)	Neighborhood Issues	(6.7)	Child Care	4.2	(1.1, 2.8)
Housekeeping and Household Maintenance	(5.1)	Recreation	(5.0)	Recreation	(6.6)	Transportation	2.4	(0.8, 1.7)

Table 4-2 continued

SEATTLE[1]		BALTIMORE[2]		CALIFORNIA[3]		NEW ENGLAND	Non-Work*	(Work, Total)*
Housing	(4.2)	Discrimination	(4.0)	Family Relations	(5.5)	Energy	2.3	(0.7, 1.6)
Transportation	(4.0)	Financial Matters	(4.0)	Crime and Safety	(5.3)	Job-Related: Getting/Changing Jobs	1.5	(20.4, 10.0)
Other	(10.0)	Other	(9.0)	Current Events and News	(4.2)	Job-Related: Technical	0.4	(29.9, 13.5)
				Legal Matters	(3.5)	Job-Related: Salary and Benefits	0.2	(7.7, 3.6)
				Other	(4.5)	Job-Related: Organizational Relations	0.1	(10.9, 5.0)
						Other:	17.2	(15.0, 16.2)

*Percentages have been subject to rounding.

1. See Reference No. 8 of this chapter.
2. See Reference No. 1 of this chapter.
3. See Reference No. 11 of this chapter.

In brief, the table reflects the importance of "consumer issues." Variations can be found for the other categories. Undoubtedly, the reason for these variations is five fold: (1) the studies did not all adhere to the same definition of situation categories, (2) situation preference may vary geographically, (3) the time and atmosphere (political, social and economic climate) may have an impact on the everyday importance of situations, (4) the New England study probed both work and non-work situations, and (5) there is no consensus or population of information needs. Information needs, even within the same situation category, may differ.

Source Utilization

Comparison of source utlization among the same four studies is also not exact. Again, the studies used different terminology and tried to explore different factors. The California and New England studies, as shown in Table 4-3 which uses the terminology employed in each study, indicates variation in the reliance on "one's own thinking or past experience" as an information channel. The categories of interpersonal and mass media sources also reflect differences in the categories of "friends, neighbors, or relatives," "professional people," "newspapers, magazines, or books," and "TV or radio."

Of most importance to this investigation is the treatment of institutional sources. Variations are evident for the categories of "store, company, or business," "government," "social service or charity," and "library." However, the New England percentage includes both work and non-work situations while those percentages of the other studies mainly refer to non-work situations. Thus, future studies might profitably explore the sequence in which respondents consult institutional source

Table 4-3: Comparison of Source Utilization Among the Four Studies (%)

	SEATTLE[1]	BALTIMORE[2]	CALIFORNIA[3]	NEW ENGLAND*
Interpersonal				
• Friend, Neighbor, or Relative	--	--	37	57
• Professional People	--	--	23	41
• Co-Worker	--	--	--	43
• Personal Contacts	--	58	--	--
Institutional				
• Merchant	7.3	--	--	--
• Store, Company or Business	--	--	20	45
• Government	5.5	--	19	27
• School or College (Educational Organization)	3.9	--	14	--
• Religious Body	--	--	7	10
• Social Service or Charity	1.8	--	7	13
• Library	--	2	7	17
• Political Organization	0.5	--	--	--
• Information Agency (e.g., Library)	2.1	--	--	--
• Other	2.1	--	--	--
Mass Media				
• Newspaper, Magazine, or Book	--	60	41	45
• T.V. or Radio	--	38	26	21
• Telephone Book	--	--	--	16
• Mass Media	6.3	--	--	--
Other				
• Own Thinking or Past Experience	--	--	52	74
• No Institutional Source Used	70.6	--	--	--

*This % includes all work and non-work situations, while those percentages of the Seattle, Baltimore and California studies refer mainly to non-work situations. Thus, comparisons should be made cautiously.

[1]See p. 214 of Reference No. 8 of this Chapter.
[2]See p. 96 of Reference No. 1 of this Chapter.
[3]See p. 26 of Reference No. 11 of this Chapter.

providers and contrast use of this type of information channel with interpersonal and mass media sources. Further, the differences underscore the necessity of having future studies use identical terminology and probe both work and non-work situations; through replication, findings can be more precisely compared. Still, the degree to which we should expect similar results even if the terminology was the same is open to question.

Library Use

Libraries were used in 17 percent of the combined work and non-work situations described by New England residents. This figure is considerably higher than that reported by the other studies depicted in Table 4-3. The reason for the greater incidence of library use reported by members of our sample may be a product of the methodological approach which differentiates this study from the aforementioned. The elicitation from respondents of situations arising in both work and non-work contexts also afforded an opportunity for survey participants to consider a broader range of situatinns which called for information seeking behavior than would have been the case had the approach undertaken by the Baltimore, Seattle and/or California studies been employed in the New England one.

It should be noted that the library use figures obtained in our investigation cannot be compared with those studies on library use by the general population because of the different methodologies employed and the difference in research focus. These other studies[13-17] report responses to a different question: "how often do you use a public library?" While the 17 percemt generated in this study refers to library use for the specific situation described, it gets at neither the type of library consulted nor the range of purposes for which libraries are used. Keeping the above warning in mind, however, for the readers' possible interest, the percentages of library use as found in some of

those studies are provided in Table 4-4.

One further study may be of interest to readers. From a representative national sample of 1515 telephone interviews conducted in 1978, the Gallup Organization discovered that 51 percent of the respondents had visited a public library within the past year. Only 17 percent of the library users made "heavy" use of libraries and their resources. Further, library users were most likely college educated, whereas non-users were male, at least 50 years of age, high school educated or less, members of households without children and residents of the South or Midwest.[18] It might be noted that "over one-half of the total sample (52%) reported almost always being successful in getting what they want when visiting a library. Those who never get what they want account for only 4 percent."[19]

Table 4-4. Use of Library at Least Once per Month

	% of General Population Adult
Berelson (1949)[1]	10
Knight and Nourse (1969)[2]	22
Kronus and Grimm (1969)[3]	22.8
Zweizig (1973)[4,5]	23.5

---

[1] See reference 13 of this chapter.

[2] See reference 14 of this chapter.

[3] See reference 15 of this chapter.

[4] See reference 16 of this chapter.

[5] See reference 17 of this chapter.

SUMMARY

One of the major objectives of this study was to compare the effectiveness of data collection through telephone interviews with previous use of the in-person approach. The advantages and drawbacks to each technique are presented in Chapter 2. The similarity of findings of our study with those in Baltimore, Seattle and California in terms of source utilization, number of sources contacted and situation categories, support the validity of this technique as a viable method of analyzing and assessing information-seeking strategies of members of the general public. Consideration of cost factors involved appears to favor employment of this approach for a broadly-based regional study of this magnitude.

Further studies into information needs should be undertaken. These should probe both work and non-work situations, and should explore other ways to identify information needs. Information needs are embodied in situations but their identification presents major conceptual problems. As shown in Tables 3-20 and 3-22 (Chapter 3), libraries were most likely to be consulted for certain topics within broad situations. For example, library use for consumer issues was mainly related to non-work situations dealing with "product information" and "product quality." Perhaps, further studies might abandon the probing of all situation categories and focus on those most likely to require assistance from institutional sources. Given the body of knowledge concerning interpersonal sources, further research might more profitably concentrate on use patterns most likely to require institutional sources.

NOTES

1. Edward S. Warner, Ann D. Murray and Vernon E. Palmour, Information Needs of Urban Residents. Baltimore, MD: Regional Planning Council, 1973, p. 89. (ED 088-464)

2. Jack Levin and Gerald Taube, "The bureaucracy and the socially handicapped: a study of lower status tenants in public housing," Sociology and Social Research 54: 209-219 (January 1970). Also, Elina Scominen, "Who needs information and why," Journal of Communication 26: 115-119 (Autumn 1976).

3. E. Katz, "The two-step flow of communication: an up-to-date report on an hypothesis," Public Opinion Quarterly 21: 61-78 (1957). Also, Bradly S. Greenberg and Brenda Dervin. The Use of the Mass Media by the Urban Poor. New York: Praeger Press, 1970.

4. Edward S. Warner, op. cit., p. 187.

5. C. Alexander, A Pattern Language which Generates Multi-service Centers. Berkeley, CA: Center for Environmental Structure, 1968.

6. This assumption is not taken directly from any one study. Rather the logic runs thusly: either I get a result or not. If I seek a source and cannot identify it then it must be linked. If not linked, then I must either continue the process or stop.

7. Edward S. Warner, op. cit.

8. Brenda Dervin, et. al., The Development of Strategies for Dealing with the Information Needs of Urban Residents. Seattle, WA: School of Communication, University of Washington. (U.S. Office of Education, Office of Libraries and Learning Resources, Project No. LOO35JA.) Phase I: Citizen Study, April 1976 (ED 125-640), pp. 474-475.

9. Edward S. Warner, op. cit.

10. Brenda Dervin, op. cit.

11. Vernon E. Palmour, Patricia F. Rathbun, William H. Brown, Brenda Dervin, and Patricia M. Dowd, Information Needs of Californians: Technical Report. Rockville, MD: King Research, Inc., 1979.

12. Based on the assumption that information needs exist, various researchers have set up situations through which they might observe whether "traces" of an information need existed. In the first studies, researchers asked if respondents had needed information. In later studies, respondents were queried if they needed information or had problems or questions about a given topic. More recently, researchers have concluded that information needs arise at moments in time when a person is facing a troublesome situation. In the Seattle study, for example, respondents were de-briefed step-by-step on a situation so that the moments would be recalled. Then, regarding each situation step, they were asked, "Did you try to find something out ...?" The answer to this question was labeled an "information thing" that the respondent sought.

13. B. Berelson, The Library's Public: A Report of the Public Library Inquiry. New York: Columbia University Press, 1949.

14. D.M. Knight and E.S. Nourse, Libraries at Large: Tradition, Innovation, and the National Interest. New York: Bowker, 1969.

15. C.L. Kronus and J.W. Grimm, "Public opinion in Illinois regarding public library support and use," in Studies in Public Library Government, Organization Support, edited by G. Garrison. Washington, D.C.: U.S. Office of Education, Bureau of Research, 1969.

16. D.L. Zweizig, "Predicting amount of library use" unpublished dissertation, Syracuse University, 1973.

17. Douglas Zweizig and Brenda Dervin, "Public library use, users, uses" in Advances in Librarianship, vol. 7, edited by Melvin J. Boight and Michael H. Harris. New York: Academic Press, 1977, pp. 231-255.

18. Book Reading and Library Usage: A Study of Habits and Perceptions. Conducted for the American Library Association. Princeton, NJ: The Gallup Organization, Inc., October 1978, p. 23.

19. Ibid., p. 28.

CHAPTER 5

IMPLICATIONS OF STUDY FINDINGS

Proper user need studies should not just focus on what libraries do; instead, they should "focus on what people do, or wish they could do if they could just figure out how to get the necessary information."[1] As Herb White points out,

> Meaningful effectiveness studies aren't easy to do. They can't be completed simply by asking people whether the library usually has the books they want, whether it is open the hours they like, or whether interlibrary loan is helpful. We already have the answers to these questions- we've been putting them into our users' minds since they were children. However, reassuring as the answers may be, they don't help us in dealing with the real problems: the relatively low use of library resources for solving information problems and the emphasis on support for library collections rather than librarians. More in-depth user needs assessment studies should address these concerns.[2]

Given the findings of this study, as well as other investigations, concerning user preference for interpersonal sources, further investigations might concentrate on the utilization of institutional and mass media source providers. For example, social service agencies in New England did not comprise an important source provider, even when respondents were trying to resolve coping needs. Future studies might profitably examine formal sources and the sequence in which they are consulted. The findings would suggest the relative value of library collections, programs, and services, as well as the qualities that people associate with the most helpful information.

The New England study has shown that some groups, specifically the elderly, have problems articulating situations and that for them such factors as cost of information take on added importance. Future research projects might be designed to elicit information needs from special constituencies, including disabled and hearing-impaired persons,[3] and to place their responses into the context of the groups explored in the New England study.

Many people in this study did not associate libraries with situations in which they had to make a decision, find out something, or solve a problem. If they did try a library, this source frequently comprised only one step in the process of gathering information. It should be remembered that libraries were labeled as "most helpful" in only 3 percent of the situations in which they had been consulted. Furthermore, libraries were infrequently perceived as providing referral service. Undoubtedly libraries need to publicize their services and collections, and to explain their ability to be of assistance in a variety of specific situations. Awareness of library resources, however, may not result in greater library use, especially by lower socio-economic groups. After all, this study discovered that, on the whole, respondents were satisfied with the sources they had already consulted. There was not even much dissatisfaction with the sources labeled as "least helpful." If similar situations ever recur, respondents might consult the least helpful source or bypass it and proceed to the most helpful one. Awareness of libraries and their collections may not alter the sequence in which source providers are consulted.

Thomas Childers, in his study of the reference questions posed at 57 public libraries from New York's Long Island area, using the

"hidden testing" techniques, produced a related question that libraries must ponder. He queried:

> What kind of question does the library choose (aspire,want, assent, condescend, feel obliged) to answer, and what quality of answer should it give?[4]

Libraries need to determine their unique role in the information seeking process and to cooperate more fully with other institutional source providers, so that citizens, as well as other source providers, associate libraries with the provision of information and referral services.

With all the recent technological advances designed to improve access to information such as interactive cable television and videodisc, future studies of information seeking patterns could determine if the percentage of library use will decline from the high of 17 percent recorded in this study. Specialized user groups may be able to gather more information rapidly from a variety of sources since technological advances have produced capabilities for a wide range of new information transfer systems covering the whole array of production, dissemination and retrieval mechanisms. Arthur D. Little, Inc., in its study entitled Passing the Threshold Into the Information Age[5], states that there are three information transfer eras:

> Era I- Discipline- Oriented Era- Basic Ethic: "Knowledge for Knowledge's Sake;"
>
> Era II- Mission- Oriented Era- Basic Ethic: "Organize to do a Job;" and
>
> Era III- Problem-Oriented Era- Basic Ethic: "Solving Society's Problems."[6]

Although the study emphasized scientific information systems, it is interesting to find that the Era III problem categories[7] are surprisingly

similar to many situation categories identified in our study.

The library, as we currently think of it, is considered by Arthur D. Little, Inc. as the Era I information institution, and clearly it is unable to meet the citizens' information needs arising in Era III of this modern information age. Furthermore, from an economic point of view, Era I institutions, which include library, are labor intensive; therefore, they become vulnerable to loss of economic viability.[8]

The Arthur D. Little study actually focuses on the role of libraries in meeting the needs of specialized user groups. Libraries need to take the type of findings discovered in our study and decide which topical situations they regard as within and those outside their domain to address. In this regard, they may find useful the discussion of the five factors which respondents considered most important for the information they received. The five factors provide a basis for examining consumer preferences for information. Further probing of them will provide the library community with a better understanding of the characteristics viewed as most essential by consumer groups. Such knowledge also has implications for library collection development, reference services, and "outreach" programs.

One can question the collective capacity of libraries to respond to diverse requests for information from their present and potential clientele. Obviously networking will continue to play an important role. Yet, network emphasis must shift from technical to public services. In the process, the needs of a larger segment of the consuming public must be addressed. Networking, therefore, must expand to meet the everyday needs of the general public in such areas as consumer and energy issues, health matters, transportation, and housing. At present, the literature of librarianship

reflects only a few efforts on the behalf of libraries to address consumer issues and to place greater emphasis on communicating than having information. In order to meet a variety of everyday needs, consumers need to gain access to current information, much of which may not be available in printed form. One problem for libraries is the fact that the literature of networking focuses, to a large extent, on bibliographic control, system efficiency, and document delivery. It neither suggests how many networks, formal and informal,address the everyday needs of the consuming public nor compares different types of networks attempting to address these everyday needs. These networks may consist solely of libraries or other institutional sources. In some cases, libraries may be cooperating with other institutional source providers.[9] It would seem that better understanding of these networks and their effectiveness would be of value to libraries in their attempt to better coordinate their services with other institutional sources.

Libraries can play (and in some cases are doing so) a more active role in the contemporary total information transfer process.In this process, libraries will be both clearinghouses and perhaps technology mediators so that clientele can have their requests for information satisfied at their home or place of employment.

In conclusion, an important question is "why don't more people use libraries to their fullest potential?" Library non-use is related to a variety of factors; for example: (1) how information is sought and located, (2) how institutional sources evaluate, and fulfill, information needs of their clientele, (3) how information is utilized; and (4) how the quality of information and the process of providing it are judged by the information consumers

themselves. Librarians need, therefore, to understand a wide variety of work and non-work related information needs including those in which people do not automatically turn to libraries. Since certain information needs are adequately fulfilled by other sources providers, libraries need to question the extent to which they want to duplicate services, as well as the population base they want to serve. In the process, information centers and libraries need to determine if they want to be the first place in the community where most people generally go to find information relating to predetermined subjects.

Further complicating matters is the fact that many libraries can no longer cope with an ever increasing amount of information produced each year, nor can they meet all the needs of a society. With information agencies, in both the public and private sectors, becoming more diverse, cooperation, or a national information policy, is all the more necessary. Libraries need to plan, develop and operate cooperative networks which address citizens' information needs, both of a work and non-work nature.

NOTES

1. Herb White, "Library effectiveness -- the elusive target," American Libraries 11: 683 (December 1980).
2. Ibid.
3. Special constituency groups have been identified in: The White House Conference on Library and Information Services, The Final Report: Summary. Washington, D.C.: National Commission on Libraries and Information Science, March 1980.
4. Thomas Childers, "The test of reference," Library Journal 105: 928 (April 15, 1980).
5. Arthur D. Little, Inc., Passing the Threshold Into the Information Age - Perspective for Federal Action on Information: A Report to the National Science Foundation. Cambridge, MA: Arthur D. Little, 1978.
6. Ibid., pp. 20-23.
7. Ibid., p. 24.

   Era III problem categories are:

   1. Environment
      - Air, Water, Solid
      - Hazardous Materials
      - Noise
   2. Energy
   3. Economic Well Being
   4. Safety
      - Hazardous Chemicals
      - Occupational Safety
      - Home Safety
      - Auto Safety
      - Mine Safety
      - Disaster Prevention
      - Others

5. Public Health
   - Drugs
   - Pesticides
   - Health Care
6. Transportation
   - Energy Impact; Mass Transport
7. Crime Prevention; Administration of Justice
8. Housing
9. Welfare

8. Ibid., p. 37

9. For example, there is: Colleen Cayton, "An uncommon cooperative venture," Library Journal 106: 928 (April 15, 1980).

APPENDIX I

SURVEY QUESTIONNAIRE

SIMMONS COLLEGE
SCHOOL OF LIBRARY SCIENCE

A Regional Investigation
of the Citizen's Information Needs
in New England

Interviewer's Name _____

Replicate No: _____

Page: _____

Respondent's Telephone Number _____ State _____

Date _____

Time _____

Result of Call _____

Comments _____

7/79

7/16/79

SIMMONS COLLEGE
SCHOOL OF LIBRARY SCIENCE

A Regional Investigation
of the Citizen's Information Needs
in New England

INTRODUCTION: Hello, I am _____ calling from Simmons College in Boston. We would like to ask you a few questions for a survey we are conducting for the U.S. Office of Education. This interview will last approximately 15 minutes. Your answers will be kept confidential and anonymous.

Are you over 16 and a member of this household?

☐ Yes (GO TO PAGE 2)

☐ No

NOW ASK: May I please speak to a household member who is 16 years of age or over?

REPEAT INTRODUCTION

IF APPROPRIATE RESPONDENT IS NOT AVAILABLE, ASK FOR A CONVENIENT TIME TO CALL BACK. RECORD CALL BACK TIME ON LOG SHEET.

IF RESPONDENT INQUIRES, USE AS MANY OF THE FOLLOWING AS NECESSARY:

a) Your telephone number was obtained from a random sample of New England residents. (If respondent's number is unlisted, these numbers were computer-generated.)

b) Offer them a Simmons telephone number (738-2224 weekdays) to verify survey and to call to arrange for a copy of the findings.

c) The purpose of the study will be discussed in a moment. (see page 2)

d) The results of this survey will assist both federal and regional agencies in making decisions regarding a wide range of issues for New England.

IDENTIFICATION OF FIRST SITUATION

Before we start, I would like to tell you a little bit about this interview.

1. Its purpose is to determine what you needed to find out, or to understand in two important situations you faced in the past month or so. They may have occurred at work, at school, at home, or elsewhere. Please describe an important situation that comes to mind:

IF RESPONDENT IS UNCLEAR OR UNABLE TO DESCRIBE A SITUATION:

> Maybe you had to make a decision, find an answer to a question, solve a problem, or try to understand something. You should understand that these situations can be positive or negative. What's important is that they be situations where you stopped and thought about what you were going to do.

_____

_____

_____

2. Is this situation related to your occupation or profession?

Yes _____

No _____

☐ IF RESPONDENT MENTIONS OCCUPATION (WORK) RELATED SITUATION, THEN ASK QUESTION SEQUENCE I (QUESTION 6, PAGE 4)

☐ IF RESPONDENT MENTIONS NON-WORK RELATED SITUATION, THEN ASK QUESTION SEQUENCE II (QUESTION 33, PAGE 13)

☐ IF RESPONDENT FAILS TO MENTION ANY SITUATION, THEN ASK:

3. What is your occupation or profession? _____

4. Now, in your work as a _____, you may have been in a situation in the past month or so where you stopped and thought about what you were going to do. Please, describe an important situation that comes to mind:

_____

_____

_____

THEN GO TO SEQUENCE I, QUESTION 6 (p. 4)

SEQUENCE I: WORK RELATED SITUATION

5. THIS QUESTION IS ASKED ONLY IF RESPONDENT HAS ALREADY COMPLETED SEQUENCE II.

So far we have been discussing a situation that is not directly work related. Now think of situations in your occupation or profession which have occurred within the last month or so. Please describe an important situation that comes to mind.

_____

_____

_____

_____

GO TO QUESTION 6, PAGE 4.

6. In situations like the one you just described, there may have been questions that you needed answers to, things you wanted to learn, or to find out, things you wanted to make sense of, understand better, or just to think about. In your situation, did you have specific questions for which you needed answers?

YES ____ NO ____

7. What were your questions? (OBTAIN LIST)

STOP: PROCEED TO NEXT SITUATION OR QUESTION 31, PAGE 12.

_____

_____

_____

_____

_____

_____

IF ONLY ONE QUESTION IS MENTIONED, GO TO QUESTION 9.

8. Of all the questions you have just mentioned, which one do you think is the most important?
IF PERSON CANNOT SELECT ONLY ONE, TAKE THE FIRST MENTIONED.

_____

_____

9. Did you attempt to get an answer to the question? DO NOT ASK EACH RESPONSE CATEGORY. RECORD RESPONDENT'S ANSWER IN THE APPROPRIATE BOX.

/ / Yes IF YES, GO TO QUESTION 11 ON PAGE 5

/ / No IF NO, GO TO QUESTION 10

/ / The respondent is still working on the question. GO TO QUESTION 11 ON PAGE 5.

10. Why was that?

_____

_____

_____

_____

THERE: PROCEED TO NEXT SITUATION OR QUESTION 31, PAGE 12

READ EACH PART (a through m) ONE AT A TIME AND RECORD RESPONSE IN APPROPRIATE BOX.

11. Did you attempt to get the answer or part of it from:

ASK THIS SEQUENCE IF TELEPHONE NUMBER ENDS IN:

	00-33			34-66			67-99		
	Y	N	d/k	Y	N	d/k	Y	N	d/k
a) your own experience?	a			c			d		
b) something a friend, neighbor or relative told you?	b			d			i		
c) something you found in the telephone book?	c			a			l		
d) something you read in a newspaper, magazine or book?	d			f			k		
e) something you saw or heard on TV or radio?	e			k			b		
f) something you got from the library?	f			l			c		
g) something told you by a professional such as a doctor, lawyer, etc?	g			b			e		
h) something you learned from a co-worker?	h			i			a		
i) something you learned from someone who works for a store, company or business?	i			j			g		
j) something you learned from someone who works for a social service agency or charity?	j			e			j		
k) something you learned from someone who works in the city, county, state or federal government?	k			g			f		
l) something you learned from a religious leader?	l			h			h		
m) other: _____	m			m			m		

12. IF RESPONDENT ONLY MENTIONS ONE SOURCE, CHECK BOX AND GO TO QUESTION 14 ☐

12a. Which one of these was the most helpful to you in getting the answer to your question? IF THE RESPONDENT HESITATES, REREAD THE SOURCES MENTIONED ABOVE.

_____

_____

13. Which one of these was the least helpful to you in getting the answer to your question? IF THE RESPONDENT HESITATES, REREAD THE SOURCES MENTIONED ABOVE.

_____

_____

14. Why did you choose (REPEAT MOST HELPFUL SOURCE) to get the answer? Did you go there because:

a) you were refered? Yes ☐ By whom?_____
_____
_____
No ☐

b) of prior experience or knowledge? Yes ☐
No ☐

c) it was nearby and easy to get to? Yes ☐
No ☐

d) it just happened to be there? Yes ☐
No ☐

Were there any other reasons? Yes ☐ What were they?

_____

_____

No ☐

15. How satisfied were you with (MOST HELPFUL SOURCE)? Would you say you were: READ ALL THE RESPONSES CATEGORIES BEFORE WAITING FOR RESPONSE

Very satisfied ☐

Somewhat satisfied ☐

Somewhat dissatisfied ☐

Very dissatisfied ☐ DON'T KNOW ☐

16. Was there anything about (MOST HELPFUL SOURCE) which you did not like?

No ☐ GO TO QUESTION 17

Yes ☐ IF YES, what was it?

_____

_____

_____

17. Would you go back to (MENTION MOST HELPFUL SOURCE) for an answer to a similar question?

No ☐ GO TO QUESTION 20

Yes ☐ IF YES, why is that?

_____

_____

_____

18. Did (MENTION MOST HELPFUL SOURCE) suggest an additional place you should go?

No ☐ GO TO QUESTION 20

Yes ☐ IF YES, where?

_____

_____

19. Did you go to the place referred?

Yes ☐ → IF YES, how satisfied were you with the referred service?

READ LIST

- Very satisfied ☐
- Somewhat satisfied ☐
- Somewhat dissatisfied ☐
- Very dissatisfied ☐

No ☐ → IF NO, why not? _____

_____

_____

20. Earlier you mentioned (LEAST HELPFUL SOURCE - REFER TO QUESTION 13, PAGE 6) was the least helpful to you in getting the answer to your question. Why did you go to (REPEAT LEAST HELPFUL SOURCE)? Was it because:

READ LIST

a) you were referred? Yes ☐ By whom? _____
(UNLESS RESPONDENT SAYS OWN THINKING) No ☐ _____

b) of prior experience or knowledge? Yes ☐
No ☐

c) it was nearby and easy to get to? Yes ☐
No ☐

d) it just happened to be there? Yes ☐
No ☐

Were there any other reasons? Yes ☐ What were they?

_____

_____

_____

_____

No ☐

21. How satisfied were you with (LEAST HELPFUL SOURCE)? Would you say you were: READ ALL THE RESPONSES CATEGORIES BEFORE WAITING FOR RESPONSE

Very satisfied /__/

Somewhat satisfied /__/

Somewhat dissatisfied /__/

Very dissatisfied /__/ DON'T KNOW /__/

22. Was there anything about (LEAST HELPFUL SOURCE) which you did not like?

No /__/ GO TO QUESTION 23

Yes /__/ IF YES, what was it?

_____

_____

_____

23. Would you go back to (MENTION LEAST HELPFUL SOURCE) for an answer to a similar question?

No /__/ GO TO QUESTION 24

Yes /__/ IF YES, why is that?

_____

_____

_____

24. Did (MENTION LEAST HELPFUL SOURCE) suggest an additional place you should go?

No /__/ GO TO QUESTION 26

Yes /__/ IF YES, where?

_____

_____

25. Did you go to the place referred?

Yes ☐ IF YES, how satisfied were you with the referred service?

READ LIST

Very satisfied ☐

Somewhat satisfied ☐

Somewhat dissatisfied ☐

Very dissatisfied ☐

No ☐ IF NO, why not? _____

_____

_____

26. In attempting to get an answer to your question, can you now tell me which of the following five items was MOST IMPORTANT to you: Was it:

READ LIST

a) the cost in money ☐

b) the time it took ☐

c) its up-to-dateness ☐

d) the accuracy of your answer ☐

e) the understandability of your answer ☐

27. Which one of the five was LEAST IMPORTANT to you?

REREAD RESPONSES IF NECESSARY

a) the cost in money ☐

b) the time it took ☐

c) its up-to-dateness ☐

d) the accuracy of your answer ☐

e) the understandability of your answer ☐

28. In getting the answer to your question, were you more concerned with the time it took or the cost in money?

- time ☐
- money ☐
- equally important ☐
- not sure ☐
- not applicable (neither) ☐

29. In getting the answer to your question, were you more concerned with the cost in money or the understandability of the answer?

- cost in money ☐
- understandability ☐
- equally important ☐
- not sure ☐
- not applicable (neither) ☐

30. In getting the answer to your question, were you more concerned with the time it took or the understandability of your answer?

- time ☐
- understandability ☐
- equally important ☐
- not sure ☐
- not applicable (neither) ☐

IF RESPONDENT HAS BEEN ASKED SEQUENCE II, GO TO QUESTION 58, PAGE 21.

SEQUENCE 11: NON-WORK RELATED SITUATION

31. So far, we have been discussing a situation related to your work. Now think of situations outside your work that occurred within the last month or so. Please describe an important situation that comes to mind:

_____

_____

_____

_____

GO TO QUESTION 6, PAGE 4.

IF RESPONDENT IS UNABLE TO DESCRIBE A SITUATION THEN ASK:

32. Perhaps something related to your neighborhood (PAUSE), city, state or national affairs (PAUSE), yourself, your family, friends. Please describe an important situation that comes to mind:

_____

_____

_____

_____

IF RESPONDENT FAILS TO MENTION A NON-WORK SITUATION, GO TO QUESTION 58, PAGE 21.

CA: .

33. In situations like the one you just described, there may have been questions that you needed answers to, things you wanted to learn, or to find out, things you wanted to make sense of, understand better, or just to think about. In your situation, did you have specific questions for which you needed answers?

YES ——

NO ——

34. What were your questions? (OBTAIN LIST)

STOP: PROCEED TO NEXT SITUATION OR QUESTION 5, PAGE 3.

IF ONLY ONE QUESTION IS MENTIONED, GO TO QUESTION 36

35. Of all the questions you have just mentioned, which one do you think is the most important? /IF PERSON CANNOT SELECT ONLY ONE, TAKE THE FIRST MENTIONED./

36. Did you attempt to get an answer to the question? DO NOT ASK EACH RESPONSE CATEGORY. RECORD RESPONDENT'S ANSWER IN THE APPROPRIATE BOX.

/ / Yes — IF YES, GO TO QUESTION 38, PAGE 14

/ / No — IF NO, GO TO QUESTION 37

/ / The respondent is still working on the question. GO TO QUESTION 39, PAGE 14

37. Why not that?

STOP B, P.3: PROCEED TO WORK-RELATED SITUATION IF NON-WORK RELATED SITUATION WAS MENTIONED FIRST (SEQUENCE I, QUESTION 5, PAGE 3,) OTHERWISE TO QUESTION 58, PAGE 21.

READ EACH PART (a through m) ONE AT A TIME AND RECORD RESPONSE IN APPROPRIATE BOX

38. Did you attempt to get the answer or part of it from:

ASK THIS SEQUENCE IF TELEPHONE NUMBER ENDS IN: 00-33 / 34-66 / 67-99

	00-33 Y	00-33 N	00-33 d/k	34-66 Y	34-66 N	34-66 d/k	67-99 Y	67-99 N	67-99 d/k
a) your own experience?	a			c			d		
b) something a friend, neighbor or relative told you?	b			d			f		
c) something you found in the telephone book?	c			a			l		
d) something you read in a newspaper, magazine or book?	d			f			k		
e) something you saw or heard on TV or radio?	e			k			b		
f) something you got from the library?	f			l			e		
g) something told you by a professional such as a doctor, lawyer, etc?	g			b			c		
h) something you learned from a coworker?	h			i			a		
i) something you learned from someone who works for a store, company or business?	i			j			g		
j) something you learned from someone who works for a social service agency or charity?	j			e			j		
k) something you learned from someone who works in the city, county, state or federal government?	k			g			v		
l) something you learned from a religious leader?	l			h			i		
m) other:	m			m			h		
							m		

39. IF RESPONDENT ONLY MENTIONS ONE SOURCE, CHECK BOX AND GO TO QUESTION 41 ☐

39a. Which one of these was the most helpful to you in getting the answer to your question? IF THE RESPONDENT HESITATES, REREAD THE SOURCES MENTIONED ABOVE.

_____

_____

40. Which one of these was the least helpful to you in getting the answer to your question? IF THE RESPONDENT HESITATES, REREAD THE SOURCES MENTIONED ABOVE.

_____

_____

41. Why did you choose (REPEAT MOST HELPFUL SOURCE)? Did you go there because:

READ LIST

a) you were refered? Yes ☐ No ☐ By whom? _____

b) of prior experience or knowledge? Yes ☐ No ☐

c) it was nearby and easy to get to? Yes ☐ No ☐

d) It just happened to be there? Yes ☐ No ☐

Were there any other reasons? Yes ☐ What were they?

_____

_____

No ☐

42. How satisfied were you with (MOST HELPFUL SOURCE)? Would you say you were: READ ALL THE RESPONSES CATEGORIES BEFORE WAITING FOR RESPONSE

Very satisfied /__/

Somewhat satisfied /__/

Somewhat dissatisfied /__/

Very dissatisfied /__/ DON'T KNOW /__/

43. Was there anything about (MOST HELPFUL SOURCE) which you did not like?

No /__/ GO TO QUESTION 44

Yes /__/ IF YES, what was it?

_____

_____

_____

44. Would you go back to (MENTION MOST HELPFUL SOURCE) for an answer to a similar question?

No /__/ GO TO QUESTION 45

Yes /__/ IF YES, why is that?

_____

_____

_____

45. Did (MENTION MOST HELPFUL SOURCE) suggest an additional place you should go?

No /__/ GO TO QUESTION 47

Yes /__/ IF YES, where?

_____

_____

46. Did you go to the place referred?

Yes /__/ → IF YES, how satisfied were you with the referred service?

READ LIST

- Very satisfied /__/
- Somewhat satisfied /__/
- Somewhat dissatisfied /__/
- Very dissatisfied /__/

No /__/ → IF NO, why not? _____

_____

_____

47. Earlier you mentioned (LEAST HELPFUL SOURCE - REFER TO QUESTION 40, PAGE 15) was the least helpful to you in getting the answer to your question. Why did you go to (REPEAT LEAST HELPFUL SOURCE)? Was it because:

READ LIST

a) you were referred? Yes /__/ By whom? _____
(UNLESS RESPONDENT SAYS OWN THINKING) No /__/

b) of prior experience or knowledge? Yes /__/
No /__/

c) it was nearby and easy to get to? Yes /__/
No /__/

d) it just happened to be there? Yes /__/
No /__/

Were there any other reasons? Yes /__/ What were they?

_____

_____

_____

_____

No /__/

48. How satisfied were you with (LEAST HELPFUL SOURCE)? Would you say you were: READ ALL THE RESPONSES CATEGORIES BEFORE WAITING FOR RESPONSE

Very satisfied /__/

Somewhat satisfied /__/

Somewhat dissatisfied /__/

Very dissatisfied /__/ DON'T KNOW /__/

49. Was there anything about (LEAST HELPFUL SOURCE) which you did not like?

No /__/ GO TO QUESTION 50

Yes /__/ IF YES, what was it?

_____

_____

_____

50. Would you go back to (MENTION LEAST HELPFUL SOURCE) for an answer to a similar question?

No /__/ GO TO QUESTION 51

Yes /__/ IF YES, why is that?

_____

_____

_____

51. Did (MENTION LEAST HELPFUL SOURCE) suggest an additional place you should go?

No /__/ GO TO QUESTION 53

Yes /__/ IF YES, where? _____

_____

_____

52. Did you go to the place referred?

Yes ☐ IF YES, how satisfied were you with the referred service?

READ LIST

- Very satisfied ☐
- Somewhat satisfied ☐
- Somewhat dissatisfied ☐
- Very dissatisfied ☐

No ☐ IF NO, why not? _____

_____

_____

53. In attempting to get an answer to your question, can you now tell me which of the following five items was MOST IMPORTANT to you:

READ LIST

a) the cost in money ☐
b) the time it took ☐
c) its up-to-dateness ☐
d) the accuracy of your answer ☐
e) the understandability of your answer ☐

54. Which one of the five was LEAST IMPORTANT to you?

REREAD RESPONSES IF NECESSARY

a) the cost in money ☐
b) the time it took ☐
c) its up-to-dateness ☐
d) the accuracy of your answer ☐
e) the understandability of your answer ☐

55. In getting the answer to your question, were you more concerned with the time it took or the cost in money?

- time ☐
- money ☐
- equally important ☐
- not sure ☐
- not applicable (neither) ☐

56. In getting the answer to your question, were you more concerned with the cost in money or the understandability of the answer?

- cost in money ☐
- understandability ☐
- equally important ☐
- not sure ☐
- not applicable (neither) ☐

57. In getting the answer to your question, were you more concerned with the time it took or the understandability of your answer?

- time ☐
- understandability ☐
- equally important ☐
- not sure ☐
- not applicable (neither) ☐

IF RESPONDENT HAS NOT BEEN ASKED SEQUENCE I, GO TO QUESTION 5, PAGE 3.

USE & NON-USE OF LIBRARY

IF RESPONDENT HAS A WORK SITUATION, AND IF THE LIBRARY WAS NOT MENTIONED AS A SOURCE IN QUESTION 11, PAGE 5, GO TO QUESTION 58.

IF RESPONDENT HAS A WORK SITUATION, AND IF THE LIBRARY WAS MENTIONED AS A SOURCE IN QUESTION 11, PAGE 5, GO TO QUESTION 59.

58 Is there any reason why you did not use a library to answer the question you had in your work situation?
RECORD VERBATIM AND CODE LATER

_____

_____

_____ CODE

_____

GO TO QUESTION 60, PAGE 23.

01	lack of time
02	inconvenient location
03	inconvenient hours
04	inconvenient parking
05	location unsafe at night
06	can't find what I need/want
07	what I need/want is checked out
08	the library frequently doesn't own what I need/want
09	library staff members are unfriendly
10	library staff members provide incomplete service
11	don't have a library card
12	don't need a library
13	I am not a reader
14	didn't occur to me
15	did not have a telephone reference service
16	no reason given
17	other (specify) _____

59 Is there any reason why you used the library to answer the question you had in your work situation?
RECORD VERBATIM AND CODE LATER

_____

_____ CODE

_____

01	convenient to my place of work
02	convenient to my home
03	library usually has what I need/want
04	library staff members are friendly
05	library staff members help me find what I need/want
06	happened to be there, looking for something else
07	has needed material which I could not find elsewhere
08	had a telephone reference desk
09	other (specify) _____

IF RESPONDENT DID NOT HAVE A NON-WORK SITUATION, GO TO SEQUENCE II, QUESTION 31, PAGE 12.

IF RESPONDENT HAS A NON-WORK SITUATION AND IF THE LIBRARY WAS NOT MENTIONED AS A SOURCE IN QUESTION 38, PAGE 14, GO TO QUESTION 60, PAGE 23.

IF RESPONDENT HAS A NON-WORK SITUATION AND IF THE LIBRARY WAS MENTIONED AS A SOURCE IN QUESTION 38, PAGE 14, GO TO QUESTION 61, PAGE 24.

60 Is there any reason why you did not use the library to answer the question you had in your non-work situation?
RECORD VERBATIM AND CODE LATER

_____

_____

_____

_____ CODE

GO TO QUESTION 62, PAGE 25.

01	lack of time
02	inconvenient location
03	inconvenient hours
04	inconvenient parking
05	location unsafe at night
06	can't find what I need/want
07	what I need/want is checked out
08	the library frequently doesn't own what I need/want.
09	library staff members are unfriendly
10	library staff members provide incomplete service
11	don't have a library card
12	don't need a library
13	I am not a reader
14	didn't occur to me
15	did not have a telephone reference service
16	no reason given
17	other (specify) _____

61 Is there any reason why you used the library to answer the question you had in your non-work situation?
RECORD VERBATIM AND CODE LATER

_____

_____

_____

_____ CODE

01	convenient to my place of work
02	convenient to my home
03	library usually has what I need/want
04	library staff members are friendly
05	library staff members help me find what I need/want
06	happened to be there, looking for someting else
07	has needed material which I could not find elsewhere
08	had a telephone reference desk
09	other (specify) _____

GO TO QUESTION 62, PAGE 25

Finally, we would like to ask you a few questions about yourself. (DEMOGRAPHICS)

62. Sex: Male _____ Female _____ (ASK ONLY IF YOU CANNOT TELL BY VOICE)

63. In what year were you born? _____

64. Which of the following categories comes closest to the type of place you are living in now?

In a large city of 250,000 population or more _____

In a medium-size city (50,000-250,000) _____
Is this a suburb of a large city? Yes___No___

In a small city or town (under 50,000) _____

On a farm _____

In open country, but not on a farm _____

Don't know _____

If no, what is your Zip code? _____

65. What is the highest level of education you have attained thus far? RECORD VERBATIM: _____

_____

_____

1 less than high school
2 high school graduate
3 some college
4 college graduate
5 technical/vocational
6 other _____

66. What is your occupation or profession?
DO NOT ASK IF RESPONDENT ANSWERED QUESTION 3, PAGE 2

_____

67. What was your total family income last year?
READ EACH CATEGORY BEFORE WAITING FOR RESPONSE

_____ under $5,000

_____ $ 5,000 - 10,000

_____ $10,000 - 15,000

_____ $15,000 - 20,000

_____ $20,000 - 25,000

_____ $25,000 +

_____ refused/don't know

68. What is your ethnic or racial origin?
READ EACH CATEGORY BEFORE WAITING FOR RESPONSE

_____ Black American

_____ Caucasian

_____ Hispanic American

_____ American Indian

_____ Asian American

_____ Portuguese American

_____ Other? What? _____

_____ Refuse to answer

CLOSING STATEMENT TO RESPONDENT

WE WANT TO THANK YOU VERY MUCH FOR YOUR TIME AND PATIENCE.

APPENDIX II

OCCUPATIONAL CATEGORIES AND OCCUPATIONAL PRESTIGE SCALES

Retired 444 00
Student 555 00
Unemployed 666 00
Housewife 777 00

Appendix B

Occupational Categories and Occupational Prestige Scales*

Compiled by John Vaughn

Occupational classification	1970 Census code*	NORC prestige scale†	International scale‡
Professional and technical workers			
Accountants	001	57	55
Architects	002	71	72
Computer specialists			
Computer programmers	003	51	51
Computer analysts	004	51	51
Computer specialists, n.e.c.§	005	51	51

*U.S. Bureau of the Census, 1970 Census of Population Alphabetical Index of Industries and Occupations," U.S. Government Printing Office, Washington, D.C., 1971.

†Paul M. Siegel, "Prestige in the American Occupational Structure," unpublished Ph.D. dissertation, University of Chicago, 1971.

‡Donald J. Treiman, "A Standard International Occupational Prestige Scale," in *Occupational Prestige in Comparative Perspective*, forthcoming. Certain categories were not available.

§n.e.c. = not elsewhere classified.

Occupational classification	Census code*	prestige scale†	national scale†
Engineers			
Aeronautical and astronautical engineers	006	71	67
Chemical engineers	010	67	66
Civil engineers	011	68	70
Electrical and electronic engineers	012	69	65
Industrial engineers	013	54	54
Mechanical engineers	014	62	66
Metallurgical and materials engineers	015	56	60
Mining engineers	020	62	63
Petroleum engineers	021	67	—
Sales engineers	022	51	51
Engineers, n.e.c.	023	67	55
Farm management advisors	024	54	54
Foresters and conservationists	025	54	49
Home management advisors	026	54	—
Lawyers and judges			
Judges	030	76	76
Lawyers	031	76	73
Librarians, archivists, and curators			
Librarians	032	55	55
Archivists and curators	033	66	55
Mathematical specialists			
Actuaries	034	55	—
Mathematicians	035	65	67
Statisticians	036	55	55
Life and physical scientists			
Agricultural scientists	042	56	58
Atmospheric and space scientists	043	68	71
Biological scientists	044	68	69
Chemists	045	69	67
Geologists	051	67	67
Marine scientists	052	68	69
Physicists and astronomers	053	74	77
Life and physical scientists, n.e.c.	054	68	72
Operations and systems researchers and analysts	055	61	61
Personnel and labor relations workers	056	56	57
Physicians, dentists, and related practitioners			
Chiropractors	061	60	63
Dentists	062	74	71
Optometrists	063	62	62
Pharmacists	064	61	64
Physicians, including osteopaths	065	82	78
Podiatrists	071	37	—
Veterinarians	072	60	61
Health practitioners, n.e.c.	073	61	60

Occupational classification	Census code*	prestige scale†	national scale†
Nurses, dieticians and therapists			
Dieticians	074	52	5
Registered nurses	075	62	5
Therapists	076	37	5
Health technologists and technicians			
Clinical laboratory technologists and technicians	080	61	5
Dental hygienists	081	61	4
Health record technologists and technicians	082	61	—
Radiologic technologists and technicians	083	61	5
Therapy assistants	084	37	—
Health technologists and technicians, n.e.c.	085	47	—
Religious workers			
Clergymen	086	69	6
Religious workers, n.e.c.	090	56	3
Social scientists			
Economists	091	57	5
Political scientists	092	65	—
Psychologists	093	71	6
Sociologists	094	66	6
Urban and regional planners	095	66	—
Social scientists, n.e.c.	096	66	6
Social and recreation workers			
Social workers	100	52	5
Recreation workers	101	49	—
Teachers, college and university			
Agriculture teachers	102	78	7
Atmospheric, earth, marine, and space teachers	103	78	7
Biology teachers	104	78	7
Chemistry teachers	105	78	7
Physics teachers	110	78	7
Engineering teachers	111	78	7
Mathematics teachers	112	78	7
Health specialist teachers	113	78	7
Psychology teachers	114	78	7
Business and commerce teachers	115	78	
Economics teachers	116	78	
History teachers	120	78	
Sociology teachers	121	78	7
Social science teachers, n.e.c.	122	78	7
Art, drama, and music teachers	123	78	7
Coaches and physical education teachers	124	78	7
Education teachers	125	78	7
English teachers	126	78	7
Foreign language teachers	130	78	7
Home economics teachers	131	78	7
Law teachers	132	78	7

Occupational classification	Census code*	NORC prestige scale†	International scale‡
Theology teachers	133	78	78
Trade, industrial, and technical teachers	134	78	78
Miscellaneous teachers, college and university	135	78	78
Teachers, college and university, subject not specified	140	78	78
Teachers, except college and university			
Adult education teachers	141	43	—
Elementary school teachers	142	60	57
Prekindergarten and kindergarten teachers	143	60	49
Secondary-school teachers	144	63	61
Teachers, except college and university, n.e.c.	145	43	62
Engineering and science technicians			
Agriculture and biological technicians, except health	150	47	47
Chemical technicians	151	47	46
Draftsmen	152	56	55
Electrical and electronic engineering technicians	153	47	46
Industrial engineering technicians	154	47	—
Mechanical engineering technicians	155	47	46
Mathematical technicians	156	47	—
Surveyors	161	53	58
Engineering and science technicians, n.e.c.	162	47	46
Technicians, except health, engineering, and science			
Airplane pilots	163	70	67
Air traffic controllers	164	43	—
Embalmers	165	52	34
Flight engineers	170	47	67
Radio operators	171	43	49
Tool programers, numerical control	172	47	—
Technicians, n.e.c.	173	47	—
Vocational and educational counselors	174	51	55
Writers, artists, and entertainers			
Actors	175	55	52
Athletes and kindred workers	180	51	50
Authors	181	60	62
Dancers	182	38	45
Designers	183	58	56
Editors and reporters	184	51	58
Musicians and composers	185	46	45
Painters and sculptors	190	56	57
Photographers	191	41	45

Occupational classification	Census code*	NORC prestige scale†	International scale
Public relations men and publicity writers	192	57	57
Radio and television announcers	193	51	50
Writers, artists, and entertainers, n.e.c.	194	51	—
Research workers, not specified	195	51	—
Professional, technical, and kindred workers—allocated	196	51	51
Managers and administrators, except farm			
Assessors, controllers, and treasurers, local public administration	201	61	—
Bank officers and financial managers	202	72	76
Buyers and shippers, farm products	203	41	39
Buyers, wholesale and retail trade	205	50	48
Credit men	210	49	49
Funeral directors	211	52	34
Health administrators	212	61	—
Construction inspectors, public administration	213	41	—
Inspectors, except construction, public administration	215	41	61
Managers and superintendents, building	216	38	47
Office managers, n.e.c.	220	50	58
Officers, pilots and pursers; ship	221	60	54
Officials and administrators: public administration, n.e.c.	222	61	65
Officials of lodges, societies, and unions	223	48	50
Postmasters and mail superintendents	224	58	58
Purchasing agents and buyers, n.e.c.	225	48	47
Railroad conductors	226	41	39
Restaurant, cafeteria, and bar managers	230	39	37
Sales managers and department heads, retail trade	231	50	47
Sales managers, except retail trade	233	50	—
School administrators, college	235	61	66
School administrators, elementary and secondary	240	60	68
Managers and administrators, n.e.c.	245	50	59
Managers and administrators, except farm—allocated	246	50	63
Sales workers			
Advertising agents and salesmen	260	42	42
Auctioneers	261	32	30
Demonstrators	262	26	23
Hucksters and peddlers	264	18	22

Occupational classification	1970 Census code*	NORC prestige scale†	International scale‡
surance agents, brokers, and underwriters	265	47	45
ewsboys	266	15	14
eal estate agents and brokers	270	44	49
tock and bond salesmen†	271	51	56
alesmen and sales clerks, n.e.c.	280	34	28
Sales representatives, manufacturing industries	281	49	46
Sales representatives, wholesale trade	282	40	—
s clerks; retail trade	283	29	34
alesmen, retail trade	284	29	32
Salesmen of services and construction	285	34	42
Sales workers—allocated	296	34	28
lerical and kindred workers			
ank tellers	301	50	48
illing clerks	303	45	42
ookkeepers	305	48	49
ashiers	310	31	31
erical assistants, social welfare	311	36	—
e al supervisors, n.e.c.	312	36	55
ectors, bill and account	313	26	27
unter clerks, except food	314	36	—
spatchers and starters, vehicle	315	34	37
umerators and interviewers	320	36	—
timators and investigators, n.e.c.	321	36	—
peditors and production controllers	323	36	44
e clerks	325	30	31
surance adjusters, examiners, and investigators	326	48	49
brary attendants and assistants	330	41	41
il carriers, post-office	331	42	33
ilhandlers, except post office	332	36	29
ssengers and office boys	333	19	26
ter readers, utilities	334	36	21
fice machine operators			
Bookkeeping and billing machine operators	341	45	45
Calculating machine operators	342	45	45
Computer and peripheral equipment operators	343	45	53
Duplicating machine operators	344	45	—
Keypunch operators	345	45	45
Tabulating machine operators	350	45	—
Office machine operators, n.e.c.	355	45	—
roll and timekeeping clerks	360	41	42
tal clerks	361	43	39
oofreaders	362	38	41

Occupational classification	1970 Census code*	NORC prestige scale†	International scale‡
Real estate appraisers	363	43	48
Receptionists	364	39	38
Secretaries			
Secretaries, legal	370	46	59
Secretaries, medical	371	46	—
Secretaries, n.e.c.	372	46	—
Shipping and receiving clerks	374	29	29
Statistical clerks	375	36	—
Stenographers	376	43	42
Stock clerks and storekeepers	381	23	31
Teacher aides, except school monitors	382	36	50
Telegraph messengers	383	30	26
Telegraph operators	384	44	45
Telephone operators	385	40	38
Ticket, station, and express agents	390	35	37
Typists	391	41	42
Weighers	392	36	—
Miscellaneous clerical workers	394	36	38
Not specified clerical workers	395	36	37
Clerical and kindred workers—allocated	396	36	44
Craftsmen and kindred workers			
Automobile accessories installers	401	47	—
Bakers	402	34	33
Blacksmiths	403	35	35
Boilermakers	404	31	31
Bookbinders	405	31	33
Brickmasons and stonemasons	410	36	34
Brickmasons and stonemasons, apprentices	411	36	—
Bulldozer operators	412	33	32
Cabinetmakers	413	39	40
Carpenters	415	40	37
Carpenter apprentices	416	40	—
Carpet installers	420	47	—
Cement and concrete finishers	421	32	34
Compositors and typesetters	422	38	47
Printing trades apprentices, except pressmen	423	40	—
Cranemen, derrickmen, and hoistmen	424	39	34
Decorators and window dressers	425	37	—
Dental laboratory technicians	426	47	—
Electricians	430	49	45
Electrician apprentices	431	41	—
Electric power linemen and cablemen	433	39	38
Electrotypers and stereotypers	434	38	42
Engravers, except photoengravers	435	41	41
Excavating, grading, and road machine operators, except bulldozer	436	33	32

Occupational classification	1970 Census code*	NORC prestige scale†	International scale‡
Floor layers, except tile setters	440	40	—
Foremen, n.e.c.	441	45	46
Forgemen and hammermen	442	36	35
Furniture and wood finishers	443	29	28
Furriers	444	35	35
Glaziers	445	26	26
Heat treaters, annealers, and temperers	446	36	38
Inspectors, scalers, and graders; log and lumber	450	31	31
Inspectors, n.e.c.	452	31	—
Jewelers and watchmakers	453	37	40
Job and die setters, metal	454	48	—
Locomotive engineers	455	51	43
Locomotive firemen	456	36	33
Machinists	461	48	43
Machinist apprentices	462	41	—
Mechanics and repairmen			
Air conditioning, heating, and refrigeration	470	37	43
Aircraft	471	48	50
Automobile body repairmen	472	37	—
Automobile mechanics	473	37	43
Automobile mechanic apprentices	474	37	—
Data processing machine repairmen	475	34	—
Farm implements	480	33	—
Heavy equipment mechanics, including diesel	481	33	—
Household appliance and accessory installers and mechanics	482	33	—
Loom fixers	483	30	30
Office machines	484	34	—
Radio and television	485	35	42
Railroad and car shop	486	37	—
Mechanic, except automobile apprentices	491	41	—
Miscellaneous mechanics and repairmen	492	35	—
Not specified mechanics and repairmen	495	35	30
Millers, grain, flour, and feed	501	25	33
Millwrights	502	40	40
Molders, metal	503	39	38
Molders, apprentices	504	39	—
Motion picture projectionists	505	34	34
Opticians, and lens grinders and polishers	506	51	57
Painters, construction and maintenance	510	30	34
Painter apprentices	511	30	—
Paperhangers	512	24	24
Pattern and model makers, except paper	514	39	39
Photoengravers and lithographers	515	40	46
Piano and organ tuners and repairmen	516	32	33
Plasterers	520	33	31
Plasterer apprentices	521	33	—

Occupational classification	1970 Census code*	NORC prestige scale†	In net sc
Plumber and pipe fitters	522	41	
Plumber and pipe fitter apprentices	523	41	
Power station operators	525	39	
Pressmen and plate printers, printing	530	40	
Pressmen apprentices	531	40	
Rollers and finishers, metal	533	36	
Roofers and slaters	534	31	
Sheetmetal workers and tinsmiths	535	37	
Sheetmetal apprentices	536	37	
Shipfitters	540	36	
Shoe repairmen	542	33	
Sign painters and letterers	543	30	
Stationary engineers	545	35	
Stone cutters and stone carvers	546	33	
Structural metal craftsmen	550	36	
Tailors	551	41	
Telephone installers and repairmen	552	39	
Telephone linemen and splicers	554	39	
Tile setters	560	36	
Tool and die makers	561	42	
Tool and die maker apprentices	562	41	
Upholsterers	563	30	
Specified craft apprentices, n.e.c.	571	41	
Not specified apprentices	572	41	
Craftsmen and kindred workers, n.e.c.	575	47	
Former members of the armed forces	580	47	
Craftsmen and kindred workers—allocated	586	47	
Current members of the armed forces	590	47	
Operatives, except transport			
Asbestos and insulation workers	601	28	
Assemblers	602	27	
Blasters and powdermen	603	32	
Boiling and canning operatives	604	23	
Chainmen, rodmen, and axmen; surveying	605	39	
Checkers, examiners, and inspectors, manufacturing	610	36	
Clothing ironers and pressers	611	18	
Cutting operatives, n.e.c.	612	26	
Dressmakers and seamstresses, except factory	613	32	
Drillers, earth	614	27	
Dry wall installers and lathers	615	27	
Dyers	620	25	
Filers, polishers, sanders, and buffers	621	19	
Furnacemen, smeltermen, and pourers	622	33	
Garage workers and gas station attendants	623	22	
Graders and sorters, manufacturing	624	33	
Produce graders and packers, except factory and farm	625	19	

Occupational classification	1970 Census code*	NORC prestige scale†	International scale‡
Heaters, metal	626	33	38
Laundry and dry cleaning operatives, n.e.c.	630	18	22
Meat cutters and butchers, except manufacturing	631	32	32
Meat cutters and butchers, manufacturing	633	28	18
[illegible] wrappers, retail trade	634	19	—
[illegible] platers	635	29	28
Millers	636	33	32
Mine operatives, n.e.c.	640	26	34
Mixing operatives	641	29	—
Oilers and greasers, except automobile	642	24	—
Packers and wrappers, n.e.c.	643	19	—
Painters, manufactured articles	644	29	29
Photographic process workers	645	36	36
Precision machine operatives			
Drill press operatives	650	29	—
Grinding machine operatives	651	29	27
Lathe and milling machine operatives	652	29	36
Precision machine operatives, n.e.c.	653	29	40
Punch and stamping press operatives	656	29	—
Riveters and fasteners	660	29	—
Sailors and deckhands	661	34	35
Sawyers	662	28	31
Sewers and stitchers	663	25	26
Shoemaking machine operatives	664	32	28
Solderers	665	29	—
Stationary firemen	666	33	33
Textile operatives			
Carding, lapping, and combing operatives	670	29	29
Knitters, loopers, and toppers	671	29	29
Spinners, twisters, and winders	672	25	34
Weavers	673	25	30
Textile operatives, n.e.c.	674	29	26
Welders and flame cutters	680	40	39
Winding operatives, n.e.c.	681	29	—
Machine operatives, miscellaneous specified	690	32	38
Machine operatives, not specified	692	32	38
Miscellaneous operatives	694	32	35
Not specified operatives	695	32	35
Operatives, except transport—allocated	696	32	—
Transport equipment operatives			
Boatmen and canalmen	701	37	23
Bus drivers	703	32	32
Conductors and motormen, urban rail transit	704	28	28

Occupational classification	1970 Census code*	NORC prestige scale†	Inte natio scal
Deliverymen and routemen	705	28	26
Fork lift and tow motor operatives	706	29	29
Motormen, mine, factory, logging camp, etc.	710	27	27
Parking attendants	711	22	24
Railroad brakemen	712	35	29
Railroad switchmen	713	33	29
Taxicab drivers and chauffeurs	714	22	28
Truck drivers	715	32	33
Transport equipment operatives—allocated	726	29	28
Laborers, except farm			
Animal caretakers, except farm	740	29	—
Carpenters' helpers	750	23	23
Construction laborers, except carpenters' helpers	751	17	15
Fishermen and oystermen	752	30	28
Freight and material handlers	753	17	20
Garbage collectors	754	17	13
Gardeners and groundskeepers, except farm	755	23	21
Longshoremen and stevedores	760	24	21
Lumbermen, raftsmen, and woodchoppers	761	26	19
Stockhandlers	762	17	—
Teamsters	763	12	18
Vehicle washers and equipment cleaners	764	17	—
Warehousemen, n.e.c.	770	20	20
Miscellaneous laborers	780	17	19
Not specified laborers	785	17	18
Laborers, except farm—allocated	796	17	19
Farmers and farm managers			
Farmers (owners and tenants)	801	41	40
Farm managers	802	44	54
Farmers and farm managers—allocated	806	41	40
Farm laborers and farm foremen			
Farm foremen	821	35	41
Farm laborers, wage workers	822	18	21
Farm laborers, unpaid family workers	823	18	34
Farm service laborers, self-employed	824	27	36
Farm laborers, farm foremen, and kindred workers—allocated	846	19	22
Service workers, except private household			
Cleaning service workers			
Chambermaids and maid, except private household	901	14	14

Occupational classification	1970 Census code*	NORC prestige scale†	International scale‡
Cleaners and charwomen	902	12	17
Janitors and sextons	903	16	21
ood service workers			
Bartenders	910	20	23
Busboys	911	22	—
Cooks, except private household	912	26	31
Dishwashers	913	22	—
Food counter and fountain workers	914	15	16
Waiters	915	20	23
Food service workers, n.e.c., except private household	916	22	25
alth service workers			
Dental assistants	921	48	44
Health aides, except nursing	922	48	—
Health trainees	923	36	—
Midwives	924	23	47
Nursing aides, orderlies, and attendants	925	36	42
Practical nurses	926	42	44
rsonal service workers			
Airline stewardesses	931	36	50
Attendants, recreation and amusement	932	15	20
Attendants, personal service, n.e.c.	933	14	—
Baggage porters and bell hops	934	14	17
Barbers	935	38	30
Boarding and lodging house keepers	940	22	22
Bootblacks	941	09	12
Child care workers, except private households	942	25	—
Elevator operators	943	21	24
Hairdressers and cosmetologists	944	33	35
Personal service apprentices	945	14	—
Housekeepers, except private households	950	36	33
School monitors	952	22	—
Ushers, recreation and amusement	953	15	—
Welfare service aides	954	14	—
tective service workers			
Crossing guards and bridge tenders	960	24	25
Firemen, fire protection	961	44	35
Guards and watchmen	962	22	22
Marshals and constables	963	46	60
Policemen and detectives	964	48	40
Sheriffs and bailiffs	965	55	47
ice workers, except private household—located	976	25	31

Occupational classification	1970 Census code*	NORC prestige scale†	In na sc
Private household workers			
Child care workers, private household	980	23	
Cooks, private household	981	18	
Housekeepers, private household	982	25	
Laundresses, private household	983	18	
Maids and servants, private household	984	18	
Private household workers—allocated	986	18	

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APPENDIX III

A LIST OF COMPONENT TOPICS FOR EACH SITUATIONS

(Taken from the Coding Manual)

SITUATIONS (Q1, 4, 5, 31, 32)

NEIGHBORHOOD (01)	NEIGHBORS -- noisy, trashy, drunk, gossipy, etc. (If drugs and theft, code under Crime)
	NEIGHBORHOOD KIDS -- hoodlums, noisy, trashy, vandalism, etc. (If drugs and theft, code under Crime)
	DOGS IN NEIGHBORHOOD -- loose, barking, messy, into trash, dog control laws not implemented, etc.
	RATS IN NEIGHBORHOOD -- in house, in neighborhood, not controlled by city, etc.
	CITY SERVICES IN NEIGHBORHOOD -- trash removal, street maintenance, sewage, abandoned appliances, etc. (Code dog control and rat removal above)
	TRAFFIC AND PARKING IN NEIGHBORHOOD -- noise, speeding cars and motorcycles, not enough parking space, dangerous traffic, too little traffic control, etc.
	VACANT LOTS, ABANDONED CARS, ABANDONED BUILDINGS IN NEIGHBORHOOD, ETC.
	NOISY AIRPLANES OVER NEIGHBORHOOD, ETC.
	NEIGHBORHOOD CONTACT -- getting along with neighbors, making contact with, etc.
	OTHER NEIGHBORHOOD -- beggars, changing character, other animals, etc.
CONSUMER (02)	PRODUCT QUALITY -- fell apart, badly made, problems getting exchange or refund or repairs.
	PRODUCT AVAILABILITY -- getting particular sizes, brands, etc.
	PRODUCT INFORMATION -- which products to buy, where to buy, product price, etc.
	BILLING -- billed for items/services not received, charged to wrong account, etc.
	SERVICE AVAILABILITY -- inconvenient service, locations, hours, can't find, service unavailable, etc.
	SERVICE QUALITY -- poor quality of service, etc.
	SERVICE INFORMATION -- which service to get, where to get, service price, etc.

	PRICES HIGH -- cost living too high, prices go up, prices too high, etc. CONSUMER PROTECTION -- protection against rip-offs, dishonest merchants, free offers, mail order companies, obnoxious salesman, harassment from creditors, etc. OTHER CONSUMER
HOUSING AND HOUSEHOLD MAINTENANCE (03)	LOANS AND MORTGAGES -- concerns on getting loans and mortgages, financing home improvements, etc. GETTING ANOTHER/BETTER PLACE TO LIVE -- dissatisfaction with present housing (rent, landlord, location, etc.) and want better place. LANDLORDS -- dissatisfaction with rent, maintenance, etc. but no mention wanting to find new place. PUBLIC HOUSING -- getting, changing, repairing (look for mention public housing) BARRIERS TO GETTING NEW HOUSING -- high cost, age, children, pets. HOUSING INSURANCE -- need information, etc. SELLING HOUSE, SUB-LEASING -- finding buyer, renter, getting dollar return, etc. GETTING EMERGENCY HOUSING -- have no place to stay, etc. REGULATIONS -- rules on home improvements, house inspection, zoning, installation of house trailers, etc. UTILITIES SERVICE -- complaints or need for information on phone, gas, electric, water, etc. PROPERTY OR HOUSE REPAIRS AND IMPROVEMENT, MAINTENANCE OPERATION -- need to do, get done, know how to do, etc. HOUSEKEEPING/DO-IT-YOURSELF PROJECTS -- housebreaking pets, gardening, getting rid insects, household hints, learning to sew, etc. CAR REPAIR, OPERATION, AND MAINTENANCE -- maintaining and caring for personal, family car(s), etc. OTHER HOUSING

EMPLOYMENT-GETTING/ CHANGING JOBS (04)	BARRIERS TO GETTING/KEEPING /CHANGING JOBS -- age, education, veteran, draft status, health, etc. CHANGING JOBS, GETTING DIFFERENT JOB -- looking for new job, different job, etc. UNEMPLOYMENT -- not working now, need job, unemployed, need to know where and how to find work, how to make resume, etc. SUMMER JOBS -- getting, etc. CAREER DECISIONS JOB ADVANCEMENT OTHER
EMPLOYMENT - SALARY AND BENEFITS (05)	PAY PROMOTIONS JOB TRAINING UNIONS OTHER
EMPLOYMENT - ORGANIZATIONAL RELATIONS (06)	JOB DEFINITION RELATIONS WITH SUPERVISORS RELATIONS WITH CO-WORKERS OTHER
EMPLOYMENT - TECHNICAL (07)	ISSUES RELATED TO EXECUTION OF SPECIFIC JOB SETTING UP BUSINESSES
EMPLOYMENT - OTHER (08)	MECHANICAL PROBLEMS
THERE ARE NO CODES 09 AND 10	

EDUCATION AND SCHOOLING (11)	ADULT EDUCATION -- poor quality, unavailability, need for, etc.
	FINANCIAL AID FOR EDUCATION -- how to get it, need for, etc.
	HIGH COST OF EDUCATION -- complaints about, etc.
	EDUCATIONAL INFORMATION -- programs should take, credits, opportunities, best schools, how to get education, etc.
	EDUCATION SYSTEM -- poor quality, fear for children, dissatisfaction, schools going downhill, lack of programs, lack of resources, lack of backing (levy failure), etc.
	PARENT/STUDENT/TEACHER CONFLICTS -- grade failures, report cards, discipline problems, etc.
	BUSING -- complaints about school busing, etc.
	PART-TIME JOBS TO SUPPORT EDUCATION -- getting jobs specifically to support education, etc.
	EDUCATION CERTIFICATION -- need to get certification, getting certification cleared, etc.
	OTHER EDUCATION AND SCHOOLING
HEALTH (12)	MENTAL HEALTH -- problems with, alcoholism, depressions, drug addiction, etc.
	PHYSICAL HEALTH -- problems with, etc.
	HEALTH INSURANCE -- complaints and questions about, coverage, high cost, etc.
	COST OF HEALTH CARE -- too high, doctor's fee, prescription drugs, hospital bills, not enough money to pay for care, etc.
	AVAILABILITY AND ADEQUACY OF HEALTH CARE -- too few doctors, clinics, care inadequate, etc.
	HEALTH INFORMATION -- need information or advice on a specific health problem or disease, etc.
	GETTING MEDICAL CARE -- need information on getting medical, dental, other health care, etc.
	OTHER HEALTH

TRANSPORTATION (13)	INADEQUATE BUS SERVICE -- slow, not enough routes, not frequent enough, available at wrong times, not enough taxi service, barriers to using bus (health, age), etc.
	CRIME ON PUBLIC TRANSPORTATION -- fear of using, muggings, etc.
	GETTING FROM ONE PLACE TO ANOTHER -- need rides to keep appointments, get services, etc.
	AUTO INSURANCE -- need information or have complaints about coverage, claim settlements (if legal dispute over claims, code under Legal)
	FINANCING A CAR -- need loan or money to buy or repair a car, replace car parts, etc.
	HIGH COST OF PUBLIC TRANSPORTATION -- buses, cabs, etc.
	ROAD MAINTENANCE OR MARKINGS -- not clear, not enough, etc. (if in neighborhood, code under Neighborhood)
	INADEQUATE EMERGENCY SERVICES -- call boxes, highway patrols, etc.
	INFORMATION ON PUBLIC TRANSPORTATION -- need information on bus schedules, routes, etc.
	OTHER TRANSPORTATION
RECREATION AND CULTURE (14)	TOO FEW RECREATION OPPORTUNITIES FOR CHILDREN/TEENS -- not enough playgrounds, not enough for kids to do, etc
	TOO FEW RECREATION OPPORTUNITIES FOR ADULTS AND FAMILIES -- not enough available, etc.
	POOR QUALITY OF RECREATION AREAS, DESTRUCTION OF, etc.
	HIGH COST OF RECREATION/ENTERTAINMENT -- restaurants, nightclubs, movies, etc.
	NEED FOR INFORMATION ON RECREATION, etc.
	LACK OF SUPERVISION AT PLAYGROUNDS -- bullying, fear for children, etc.
	OTHER RECREATION AND CULTURE

MONEY (15)

TOO HIGH TAXES -- property taxes and taxes in general, etc.

GETTING LOANS OR CREDIT, INTEREST RATES -- need to get, etc. (Include nonspecific loans only; i.e., loans for housing should be coded under Housing)

FILLING IN PERSONAL INCOME TAXES -- need help, information, etc.

RETIREMENT -- worried about, need information on, etc. (Code social security under Public Assistance)

STOCK MARKET, INVESTMENT, SECURITIES -- need information, advice, etc.

NOT ENOUGH MONEY TO MAKE ENDS MEET -- general problem, etc.

ACQUIRING OR SELLING PROPERTIES -- need, problems with, etc. (Except home to coded under Housing)

HANDLING MONEY -- need information, help, handling money, consumer credit, etc.

LIFE INSURANCE -- problems with, need information on, etc.

OTHER FINANCIAL MATTERS AND ASSISTANCE

PUBLIC ASSISTANCE AND SOCIAL SECURITY (16)

UNEMPLOYMENT COMPENSATION, INSURANCE -- need, need information on, complaints on, filing for, etc.

SOCIAL SECURITY -- need, need information on, complaints, etc.

FOOD STAMPS -- how to get, don't get enough, problems with, etc.

MEDICAL ASSISTANCE, MEDICARE, MEDICAID -- problems with, need for information on, etc.

WELFARE -- not enough welfare, social worker conflict, receiving check, questions on, etc.

PUBLIC DISABILITY INSURANCE -- filing, getting, etc.

EMERGENCY FINANCIAL HELP FOR HOUSING -- to pay rent, mortgage, etc.

EMERGENCY FINANCIAL HELP FOR FOOD -- to get groceries, food stamps, etc.

OTHER NEED FOR EMERGENCY FINANCIAL HELP -- clothing, money in general, etc.

OTHER PUBLIC ASSISTANCE AND SOCIAL SECURITY

CHILD CARE (17)	DAY CARE/PRE-SCHOOL PROGRAMS/BABYSITTING -- need, how to get, etc.
	HIGH COST OF DAY CARE, etc.
	CHILD CARE, WELL-BEING, AND BEHAVIOR -- concerns about, difficulties, need for information, etc.
	CARE, WELL-BEING, AND BEHAVIOR OF OTHER FAMILY MEMBERS -- concerns about, difficulties, need for information, etc.
	CARE, WELL-BEING, AND BEHAVIOR OF SELF -- concerns about, difficulties, need for information, etc.
	NEED FOR INFORMATION TO HELP CHILDREN WITH HOMEWORK, etc.
	OTHER CHILD CARE
OTHER FAMILY RELATIONS (18)	SEPARATIONS, DIVORCES -- need for, want to, info on, etc.
	DESERTION -- difficulty with, etc.
	SITUATIONS WITH PARENTS, OTHER RELATIVES
	FAMILY PLANNING
	OTHER FAMILY RELATIONSHIPS
PERSONAL RELATIONS (19)	NEED FOR SOMEONE TO TALK TO ABOUT PERSONAL PROBLEMS, etc.
	FRIENDSHIPS
	OTHER PERSONAL CONCERNS

LEGAL (20)	DIVORCE, SEPARATION, DESERTION LAWS -- legal aspects, etc.
	LEGAL CONTRACTS -- damage suits, lease disputes, disputed insurance claims, etc.
	LEGAL DOCUMENTS -- need to get, need to understand wills, passports, birth certificates, etc.
	INFORMATION ON SPECIFIC LAWS -- how to make appeals, do-it-yourself law, etc.
	GETTING A LAWYER -- need one, how to get, etc.
	GETTING CHEAP OR FREE LEGAL ADVICE, etc.
	CRIMINAL RECORDS -- difficulties with, clearing name, parole, probation requirements, etc.
	LEGAL SERVICE -- need for other legal service not coded above.
	OTHER LEGAL
CRIME AND SAFETY (21)	LAX LAW ENFORCEMENT -- not enough police, police don't do anything, criminals get off, laws lax, etc.
	STREET LIGHTS -- need more, etc.
	CRIME AGAINST NON-FAMILY -- crime too high, general statement of fear about crime, crime not self-associated, etc.
	CRIME AGAINST SELF, FAMILY -- specific instances (self-associated situation) and resulting fear, etc.
	DRUGS -- talk of drugs, narcotics traffic, use, and resulting crime, etc.
	OTHER CRIME AND SAFETY
ENERGY (22)	GASOLINE SHORTAGES
	ENERGY CONSERVATION
	COST OF ENERGY
	OTHER ENERGY

CURRENT AFFAIRS (23)	NEWS, CURRENT AFFAIRS
	POLITICAL ISSUES AND POLITICIANS
	GENERAL GOVERNMENTAL ADMINISTRATION AND POLICIES
	OTHER CURRENT AFFAIRS
MISCELLANEOUS (24)	SPORTS, WEATHER -- talk of, need information on, etc.
	LOCATING NAMES AND ADDRESSES OF PEOPLE, AGENCIES, PLACES -- to find, getting maps and directions, getting information on institutions, etc.
	GENERAL FACTUAL INFORMATION -- word definitions, spellings, historical facts, nature, geography, famous people, etc.
	GENERAL CITIZENSHIP INFORMATION -- how to register to vote, get drivers license, register a car, etc. (Code immigration-related in Immigration, Migration, Mobility)
	FOREIGN OR INTERNATIONAL TRAVEL -- international monetary exchange rates, rules and regulations for cross-nation travel (Code passports under Legal; code visa and immigration under Immigration, Migration, Mobility)
	RELIGIOUS ISSUES AND THEOLOGY -- questions about life after death, the meaning of life, etc.
	MASS MEDIA -- concerns about, violence in, bias in, effects of, inadequacies of, etc.
	VETERANS AND MILITARY DISCRIMINATION, MIGRATION AND MOBILITY
	OTHER MISCELLANEOUS

APPENDIX IV. MOST IMPORTANT FACTOR AS REFLECTED IN EACH NON-WORKED RELATED SITUATION

Q1	COUNT / ROW PCT / COL PCT / TOT PCT	Q26 COST 1.	TIME 2.	UP TO DATE 3.	ACCURACY 4.	UNDERSTANDABILITY 5.	UNABLE TO CHOOSE 6.	ROW TOTAL
NEIGHBORHOOD	1.	11	4	4	4	10	2	34
		32.5	10.5	11.4	10.8	28.7	5.1	1.8
		2.4	1.2	3.1	0.8	2.2	1.7	
		0.6	0.2	0.2	0.2	0.5	0.1	
CONSUMER	2.	151	65	13	114	69	17	429
		35.1	15.2	3.1	26.6	16.1	4.0	22.2
		32.[illegible]	21.8	10.4	23.4	15.7	14.0	
		7.8	3.4	0.7	5.9	3.6	0.9	
HOUSING	3.	108	37	7	43	46	23	264
		40.9	13.9	2.6	16.3	17.4	8.8	13.7
		23.6	12.3	5.4	8.8	10.5	19.2	
		5.6	1.9	0.4	2.2	2.4	1.2	
CHANGING JOBS	4.	5	5	3	11	6	1	32
		15.5	16.1	11.0	36.0	19.6	1.9	1.6
		1.1	1.7	2.8	2.3	1.4	0.5	
		0.3	0.3	0.2	0.6	0.3	0.0	
SALARY BENEFITS	5.	2	0	0	3	1	0	5
		30.0	0.0	0.0	60.0	10.0	0.0	0.3
		0.3	0.0	0.0	0.6	0.1	0.0	
		0.1	0.0	0.0	0.2	0.0	0.0	
ORGANIZATIONAL	6.	0	1	1	0	2	0	3
		0.0	25.8	25.8	0.0	48.4	0.0	0.2
		0.0	0.3	0.6	0.0	0.3	0.0	
		0.0	0.0	0.0	0.0	0.1	0.0	
TECHNICAL	7.	3	1	2	1	1	0	8
		35.1	7.8	28.6	18.2	10.4	0.0	0.4
		0.6	0.2	1.7	0.3	0.2	0.0	
		0.1	0.0	0.1	0.1	0.0	0.0	
OTHER WORK	8.	0	1	2	0	1	1	4
		0.0	25.0	34.1	0.0	27.3	13.6	0.2
		0.0	0.4	1.2	0.0	0.3	0.5	
		0.0	0.1	0.1	0.0	0.1	0.0	
COLUMN TOTAL		458	299	127	486	439	121	1930
		23.7	15.5	6.6	25.2	22.7	6.3	100.0

(CONTINUED)

Q1	COUNT / ROW PCT / COL PCT / TOT PCT	Q26 COST 1.	TIME 2.	UP TO DATE 3.	ACCURACY 4.	UNDERSTANDABILTY 5.	UNABLE TO CHOOSE 6.	ROW TOTAL
EDUCATION	11.	23 / 12.9 / 5.0 / 1.2	22 / 12.2 / 7.4 / 1.1	17 / 9.2 / 13.1 / 0.9	58 / 32.1 / 11.9 / 3.0	47 / 26.2 / 10.7 / 2.4	13 / 7.3 / 10.9 / 0.7	180 / 9.3
HEALTH	12.	11 / 9.7 / 2.5 / 0.6	24 / 20.7 / 8.2 / 1.3	11 / 9.3 / 8.6 / 0.6	37 / 31.2 / 7.5 / 1.9	26 / 21.8 / 5.9 / 1.3	9 / 7.4 / 7.2 / 0.5	118 / 6.1
TRANSPORTATION	13.	10 / 23.3 / 2.2 / 0.5	11 / 24.4 / 3.6 / 0.6	0 / 0.0 / 0.0 / 0.0	16 / 35.9 / 3.3 / 0.8	5 / 10.4 / 1.0 / 0.2	3 / 6.1 / 2.2 / 0.1	44 / 2.3
RECREATION	14.	41 / 25.7 / 9.0 / 2.1	26 / 16.2 / 8.6 / 1.3	17 / 10.7 / 13.4 / 0.9	45 / 28.1 / 9.2 / 2.3	23 / 14.2 / 5.2 / 1.2	8 / 5.1 / 6.7 / 0.4	159 / 8.3
MONEY MATTERS	15.	37 / 25.8 / 8.1 / 1.9	23 / 16.3 / 7.8 / 1.2	8 / 5.4 / 6.1 / 0.4	36 / 25.2 / 7.4 / 1.9	27 / 19.1 / 6.2 / 1.4	12 / 8.3 / 9.8 / 0.6	143 / 7.4
PUBLIC ASSIST	16.	1 / 12.1 / 0.3 / 0.1	1 / 10.3 / 0.4 / 0.1	2 / 17.2 / 1.6 / 0.1	3 / 25.0 / 0.6 / 0.2	4 / 35.3 / 0.9 / 0.2	0 / 0.0 / 0.0 / 0.0	12 / 0.6
CHILD CARE	17.	6 / 7.7 / 1.4 / 0.3	15 / 18.7 / 5.0 / 0.8	8 / 10.0 / 6.3 / 0.4	17 / 21.4 / 3.3 / 0.9	27 / 33.9 / 6.2 / 1.4	7 / 8.2 / 5.4 / 0.3	80 / 4.2
OTHER FAMILY	18.	6 / 9.7 / 1.3 / 0.3	9 / 15.4 / 3.1 / 0.5	2 / 3.3 / 1.6 / 0.1	11 / 18.7 / 2.3 / 0.6	30 / 50.9 / 7.0 / 1.6	1 / 2.0 / 1.0 / 0.1	60 / 3.1
COLUMN TOTAL		498 / 23.7	299 / 15.5	127 / 6.6	486 / 25.2	439 / 22.7	121 / 6.3	1930 / 100.0

(CONTINUED)

Q1	COUNT / ROW PCT / COL PCT / TOT PCT	Q26 COST 1.	TIME 2.	UP TO DA TE 3.	ACCURACY 4.	UNDERSTA NDABILTY 5.	UNABLE T O CHOOSE 6.	ROW TOTAL
PERSONAL RELATNS	19.	8	15	1	19	40	4	88
		9.6	17.3	1.5	21.6	45.6	4.3	4.6
		1.9	5.1	1.0	3.9	9.2	3.1	
		0.4	0.8	0.1	1.0	2.1	0.2	
LEGAL	20.	6	8	3	14	10	1	43
		14.8	19.5	7.3	33.3	23.7	1.4	2.2
		1.4	2.8	2.4	2.9	2.3	0.5	
		0.3	0.4	0.2	0.7	0.5	0.0	
CRIME SAFETY	21.	5	2	2	1	5	2	17
		29.6	11.8	8.9	7.7	29.6	12.4	0.9
		1.1	0.7	1.2	0.3	1.1	1.7	
		0.3	0.1	0.1	0.1	0.3	0.1	
ENERGY	22.	10	3	9	10	10	3	45
		22.1	6.9	20.1	22.1	21.4	7.4	2.3
		2.2	1.0	7.1	2.0	2.2	2.7	
		0.5	0.2	0.5	0.5	0.5	0.2	
CURRENT AFFAIRS	23.	3	7	2	13	17	4	47
		7.4	15.1	4.9	27.6	35.7	9.3	2.4
		0.8	2.4	1.8	2.7	3.8	3.6	
		0.2	0.4	0.1	0.7	0.9	0.2	
OTHER	24.	10	18	13	30	33	11	116
		8.6	15.8	11.5	26.0	28.4	9.6	6.0
		2.2	6.1	10.5	6.2	7.5	9.2	
		0.5	0.9	0.7	1.6	1.7	0.6	
COLUMN TOTAL		458	299	127	486	439	121	1930
		23.7	15.5	6.6	25.2	22.7	6.3	100.0

APPENDIX V. MOST IMPORTANT FACTOR AS REFLECTED IN EACH WORK RELATED SITUATION

Q1	COUNT / ROW PCT / COL PCT / TOT PCT	Q26 COST 1.	TIME 2.	UP TO DATE 3.	ACCURACY 4.	UNDERSTANDABILITY 5.	UNABLE TO CHOOSE 6.	ROW TOTAL
NEIGHBORHOOD	1.	2	2	0	3	0	3	10
		18.2	20.2	0.0	34.3	0.0	27.3	0.6
		0.9	0.7	0.0	0.7	0.0	2.5	
		0.1	0.1	0.0	0.2	0.0	0.2	
CONSUMER	2.	5	5	1	11	11	4	37
		14.0	14.8	3.6	29.0	29.0	9.4	2.4
		2.6	1.9	1.7	2.2	2.8	3.2	
		0.3	0.4	0.1	0.7	0.7	0.2	
HOUSING	3.	4	4	5	5	4	2	24
		17.6	18.5	19.3	21.0	17.2	6.3	1.5
		2.1	1.5	5.6	1.0	1.1	1.4	
		0.3	0.3	0.3	0.3	0.3	0.1	
CHANGING JOBS	4.	64	53	20	71	90	18	316
		20.2	16.8	6.5	22.3	28.5	5.6	20.4
		32.3	18.1	24.8	14.5	23.8	16.3	
		4.1	3.4	1.3	4.6	5.8	1.1	
SALARY BENEFITS	5.	24	20	4	36	30	7	120
		19.8	16.8	3.5	30.0	24.6	5.5	7.8
		12.0	6.9	5.1	7.4	7.8	6.1	
		1.5	1.3	0.3	2.3	1.9	0.4	
ORGANIZATIONAL	6.	18	32	10	63	35	15	172
		10.7	18.4	5.8	36.5	20.2	8.7	11.2
		9.3	10.8	11.6	13.0	9.2	13.9	
		1.2	2.0	0.6	4.1	2.2	1.0	
TECHNICAL	7.	29	105	23	162	103	37	458
		6.3	23.0	5.0	35.3	22.4	8.1	29.6
		14.5	35.7	27.8	33.3	27.1	34.4	
		1.9	6.8	1.5	10.5	6.6	2.4	
COLUMN TOTAL		198	294	82	485	379	108	1547
		12.8	19.0	5.3	31.4	24.5	7.0	100.0

(CONTINUED)

Q1	COUNT / ROW PCT / COL PCT / TOT PCT	Q26 COST 1.	TIME 2.	UP TO DATE 3.	ACCURACY 4.	UNDERSTANDABILITY 5.	UNABLE TO CHOOSE 6.	ROW TOTAL
8. OTHER WORK		25	25	8	58	52	17	185
		13.5	13.3	4.6	31.6	28.6	9.6	11.9
		12.6	8.4	10.2	12.0	13.8	15.4	
		1.6	1.6	0.5	3.8	3.3	1.1	
11. EDUCATION		7	8	5	22	20	0	61
		11.9	12.4	8.1	35.7	31.9	0.0	4.0
		3.7	2.6	6.1	4.5	5.2	0.0	
		0.5	0.5	0.3	1.4	1.3	0.0	
12. HEALTH		3	5	1	14	10	5	38
		7.7	13.5	1.6	36.9	26.4	14.0	2.4
		1.5	1.7	0.7	2.9	2.6	4.9	
		0.2	0.3	0.0	0.9	0.8	0.3	
13. TRANSPORTATION		1	7	0	4	2	0	13
		9.2	52.3	0.0	26.9	11.5	0.0	0.8
		0.6	2.3	0.0	0.7	0.4	0.0	
		0.1	0.4	0.0	0.2	0.1	0.0	
14. RECREATION		3	6	0	6	0	0	15
		19.7	42.1	0.0	38.2	0.0	0.0	1.0
		1.5	2.2	0.0	1.2	0.0	0.0	
		0.2	0.4	0.0	0.4	0.0	0.0	
15. MONEY MATTERS		8	8	1	9	3	1	28
		27.8	27.5	2.1	31.7	9.2	1.8	1.8
		4.0	2.8	0.7	1.9	0.7	0.5	
		0.5	0.5	0.0	0.6	0.2	0.0	
16. PUBLIC ASSIST		0	0	0	1	0	0	1
		0.0	0.0	0.0	100.0	0.0	0.0	0.1
		0.0	0.0	0.0	0.3	0.0	0.0	
		0.0	0.0	0.0	0.1	0.0	0.0	
COLUMN TOTAL		198	294	82	485	379	108	1547
		12.8	19.0	5.3	31.4	24.5	7.0	100.0

(CONTINUED)

Q1	COUNT / ROW PCT / COL PCT / TOT PCT	Q26 COST 1.	TIME 2.	UP TO DATE 3.	ACCURACY 4.	UNDERSTANDABILITY 5.	UNABLE TO CHOOSE 6.	ROW TOTAL
CHILD CARE	17.	2	3	1	2	9	0	18
		8.5	17.5	7.3	13.0	55.7	0.0	1.1
		0.8	1.1	1.6	0.5	2.5	0.0	
		0.1	0.2	0.1	0.1	0.6	0.0	
OTHER FAMILY	18.	0	0	0	1	1	0	1
		0.0	0.0	0.0	81.5	58.5	0.0	0.1
		0.0	0.0	0.0	0.2	0.1	0.0	
		0.0	0.0	0.0	0.1	0.0	0.0	
PERSONAL RELATNS	19.	0	1	1	0	3	0	5
		0.0	17.4	13.0	0.0	69.6	0.0	0.3
		0.0	0.3	0.7	0.0	0.8	0.0	
		0.0	0.1	0.0	0.0	0.2	0.0	
LEGAL	20.	0	2	2	7	1	0	12
		0.0	12.3	15.9	57.4	11.5	0.0	0.8
		0.0	0.5	2.8	1.4	0.4	0.0	
		0.0	0.1	0.1	0.5	0.1	0.0	
CRIME SAFETY	21.	0	4	0	1	2	1	6
		0.0	57.1	0.0	7.9	27.0	7.9	0.4
		0.0	1.2	0.0	0.1	0.4	0.5	
		0.0	0.2	0.0	0.0	0.1	0.0	
ENERGY	22.	3	3	0	4	1	0	11
		26.3	28.9	0.0	37.7	7.0	0.0	0.7
		1.5	1.1	0.0	0.9	0.2	0.0	
		0.2	0.2	0.0	0.3	0.1	0.0	
CURRENT AFFAIRS	23.	0	0	1	0	2	0	2
		0.0	0.0	25.0	0.0	75.0	0.0	0.1
		0.0	0.0	0.6	0.0	0.4	0.0	
		0.0	0.0	0.0	0.0	0.1	0.0	
OTHER	24.	0	2	0	6	3	1	11
		0.0	13.9	0.0	52.2	27.0	7.0	0.7
		0.0	0.5	0.0	1.2	0.8	0.7	
		0.0	0.1	0.0	0.4	0.2	0.1	
COLUMN TOTAL		198	294	82	485	379	108	1547
		12.8	19.0	5.3	31.4	24.5	7.0	100.0

APPENDIX VI. MOST IMPORTANT FACTOR CONNECTED WITH EACH PROFESSIONAL GROUP

Q3A	Q26	COST	TIME	UP TO DATE	ACCURACY	UNDERSTANDABILITY	UNABLE TO CHOOSE	ROW TOTAL
		1.	2.	3.	4.	5.	6.	
PROS	1.	83	100	47	220	147	43	640
		12.9	15.6	7.4	34.4	23.0	6.7	13.8
		12.9	17.2	21.3	22.9	13.3	19.8	
		2.4	2.9	1.4	6.5	4.3	1.3	
ADMINS	2.	47	37	17	103	71	21	296
		15.8	12.6	5.7	34.7	23.9	7.3	8.7
		7.3	6.4	8.3	10.7	6.8	10.0	
		1.4	1.1	0.5	3.0	2.1	0.6	
SALES	3.	54	54	11	74	62	22	277
		19.4	19.6	4.0	26.8	22.5	7.9	8.1
		8.4	9.3	5.5	7.7	7.7	10.1	
		1.6	1.6	0.3	2.2	1.8	0.6	
CLERICAL	4.	102	82	22	131	107	17	463
		22.2	17.7	4.8	28.4	23.2	3.7	13.6
		16.0	14.1	10.9	13.7	13.4	8.0	
		3.0	2.4	0.6	3.9	3.2	0.5	
CRAFTSMN	5.	97	83	18	97	84	29	408
		23.7	20.4	4.5	23.7	20.5	7.1	12.0
		15.2	14.3	9.0	10.1	10.4	13.5	
		2.9	2.5	0.5	2.8	2.5	0.9	
OPERATVS	6.	27	38	10	48	35	8	165
		16.2	22.8	6.1	28.9	21.3	4.7	4.8
		4.2	6.5	4.9	5.0	4.4	3.6	
		0.8	1.1	0.3	1.4	1.0	0.2	
TRANSPT	7.	7	6	3	15	9	3	43
		17.2	13.3	6.9	34.7	20.5	7.4	1.3
		1.2	1.0	1.5	1.6	1.1	1.5	
		0.2	0.2	0.1	0.4	0.3	0.1	
LABORERS	8.	30	13	5	11	22	10	91
		32.6	14.2	5.3	11.8	24.5	11.6	2.7
		4.6	2.2	2.4	1.1	2.8	4.9	
		0.9	0.4	0.1	0.3	0.7	0.3	

Q3A	COUNT / ROW PCT / COL PCT / TOT PCT	Q26 COST 1.	TIME 2.	UP TO DATE 3.	ACCURACY 4.	UNDERSTANDABILITY 5.	UNABLE TO CHOOSE 6.	ROW TOTAL
FARMERS	9.	8	4	0	7	3	1	22
		35.3	18.8	0.0	30.4	12.9	2.7	0.7
		1.2	0.7	0.0	0.7	0.4	0.3	
		0.2	0.1	0.0	0.2	0.1	0.0	
FARM LABR	10.	4	1	4	3	3	0	16
		26.3	7.7	23.1	20.5	22.4	0.0	0.5
		0.6	0.2	1.8	0.3	0.4	0.0	
		0.1	0.0	0.1	0.1	0.1	0.0	
SERVICE	11.	61	60	22	92	92	21	348
		17.5	17.3	6.3	26.4	26.5	6.0	10.2
		9.5	10.4	10.8	9.6	11.5	9.7	
		1.8	1.8	0.6	2.7	2.7	0.6	
HOUSEHOLD	12.	4	1	1	1	7	0	14
		26.5	8.8	5.9	8.8	50.0	0.0	0.4
		0.6	0.2	0.4	0.1	0.8	0.0	
		0.1	0.0	0.0	0.0	0.2	0.0	
RETIRED	991.	43	18	9	24	27	11	131
		32.7	14.0	6.7	18.2	20.3	8.1	3.8
		6.7	3.1	4.3	2.5	3.3	4.9	
		1.3	0.5	0.3	0.7	0.8	0.3	
STUDENT	992.	28	38	12	68	56	4	207
		13.4	18.1	6.0	32.8	27.8	1.8	6.1
		4.3	6.5	6.1	7.1	7.2	1.8	
		0.8	1.1	0.4	2.0	1.7	0.1	
UNEMPLYD	993.	16	12	5	21	22	4	81
		20.1	15.1	6.7	26.6	27.0	4.5	2.4
		2.5	2.1	2.7	2.2	2.7	1.7	
		0.5	0.4	0.2	0.6	0.6	0.1	
HOUSEWF	994.	30	34	17	44	54	22	201
		14.7	16.8	8.3	22.0	27.0	11.1	5.9
		4.6	5.8	8.3	4.6	6.8	10.3	
		0.9	1.0	0.5	1.3	1.6	0.7	
	COLUMN TOTAL	640	582	203	959	804	216	3403
		18.8	17.1	6.0	28.2	23.6	6.3	100.0

APPENDIX VII. LEAST IMPORTANT FACTOR AS REFLECTED IN EACH NON-WORK RELATED SITUATION

Q1	COUNT / ROW PCT / COL PCT / TOT PCT	Q27 COST 1.	TIME 2.	UP TO DA TE 3.	ACCURACY 4.	UNCERSTA NDABILITY 5.	UNABLE T O CHOOSE 6.	ROW TOTAL
NEIGHBORHOOD 1.		10	10	3	2	3	6	34
		28.4	28.9	8.2	7.0	10.2	17.3	1.8
		1.3	1.5	1.6	3.9	1.7	5.1	
		0.5	0.5	0.1	0.1	0.2	0.3	
CONSUMER 2.		121	178	45	9	59	14	426
		28.3	41.9	10.6	2.2	13.8	3.3	22.2
		16.4	27.9	26.3	15.4	28.8	12.3	
		6.3	9.3	2.3	0.5	3.0	0.7	
HOUSING 3.		52	96	29	10	43	29	260
		20.1	37.1	11.3	3.9	16.6	11.1	13.5
		7.1	15.1	17.1	16.6	21.1	24.9	
		2.7	5.0	1.5	0.5	2.2	1.5	
CHANGING JOBS 4.		8	12	4	0	5	2	32
		26.5	37.9	13.9	0.0	15.5	6.3	1.6
		1.1	1.9	2.6	0.0	2.4	1.7	
		0.4	0.6	0.2	0.0	0.3	0.1	
SALARY BENEFITS 5.		2	2	2	0	0	0	5
		40.0	30.0	30.0	0.0	0.0	0.0	0.3
		0.3	0.2	0.9	0.0	0.0	0.0	
		0.1	0.1	0.1	0.0	0.0	0.0	
ORGANIZATIONAL 6.		2	0	2	0	0	0	3
		51.6	0.0	48.4	0.0	0.0	0.0	0.2
		0.2	0.0	0.9	0.0	0.0	0.0	
		0.1	0.0	0.1	0.0	0.0	0.0	
TECHNICAL 7.		3	2	2	0	1	0	8
		45.5	19.5	19.5	0.0	15.6	0.0	0.4
		0.5	0.2	0.9	0.0	0.6	0.0	
		0.2	0.1	0.1	0.0	0.1	0.0	
COLUMN TOTAL		734	639	171	61	204	115	1925
		38.1	33.2	8.9	3.2	10.6	6.0	100.0

(CONTINUED)

Q1	COUNT / ROW PCT / COL PCT / TOT PCT	Q27 1. COST	2. TIME	3. UP TO DATE	4. ACCURACY	5. UNDERSTANDABILITY	6. UNABLE TO CHOOSE	ROW TOTAL
8. OTHER WORK		3 59.1 0.4 0.1	1 27.3 0.2 0.1	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	1 13.6 0.3 0.0	4 0.2
11. EDUCATION		89 49.4 12.1 4.6	59 32.9 9.2 3.1	12 7.0 7.3 0.6	4 2.5 7.4 0.2	8 4.5 3.9 0.4	7 3.8 6.0 0.4	180 9.3
12. HEALTH		70 59.3 9.5 3.6	30 25.4 4.7 1.6	4 3.4 2.3 0.2	4 3.3 6.4 0.2	7 6.0 3.5 0.4	3 2.5 2.6 0.2	118 6.1
13. TRANSPORTATION		16 37.0 2.2 0.9	9 20.8 1.4 0.5	9 21.2 5.5 0.5	1 2.7 2.0 0.1	5 12.2 2.6 0.3	3 6.1 2.3 0.1	44 2.3
14. RECREATION		61 38.2 8.3 3.2	52 32.5 8.1 2.7	8 5.0 4.7 0.4	11 7.0 18.2 0.6	19 11.7 9.1 1.0	9 5.6 7.8 0.5	159 8.3
15. MONEY MATTERS		45 31.1 6.1 2.3	47 32.9 7.4 2.5	10 7.3 6.1 0.5	7 4.6 10.8 0.3	26 18.1 12.8 1.4	9 6.0 7.5 0.5	144 7.5
16. PUBLIC ASSIST		3 26.7 0.4 0.2	7 62.9 1.1 0.4	1 10.3 0.7 0.1	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	12 0.6
COLUMN TOTAL		734 38.1	639 33.2	171 8.9	61 3.2	204 10.6	115 6.0	1925 100.0

(CONTINUED)

Q1	COUNT / ROW PCT / COL PCT / TOT PCT	Q27 COST 1.	TIME 2.	UP TO DATE 3.	ACCURACY 4.	UNDERSTANDABILITY 5.	UNABLE TO DISCUSS 6.	ROW TOTAL
CHILD CARE	17.	48	16	5	3	1	6	80
		60.2	19.8	6.7	4.1	1.5	7.6	4.2
		6.6	2.5	3.2	3.4	0.6	5.3	
		2.5	0.8	0.3	0.2	0.1	0.3	
OTHER FAMILY	18.	32	18	7	0	3	0	60
		53.3	30.0	11.5	0.0	4.7	0.0	3.1
		4.3	2.9	4.0	0.0	1.4	0.0	
		1.7	1.0	0.4	0.0	0.1	0.0	
PERSONAL RELATNS	19.	47	23	9	4	1	5	89
		53.3	25.6	9.8	4.4	1.1	5.8	4.6
		6.5	3.6	5.1	6.4	0.5	4.5	
		2.5	1.2	0.5	0.2	0.1	0.3	
LEGAL	20.	20	14	5	0	2	1	43
		47.4	33.6	12.0	0.0	5.6	1.4	2.2
		2.8	2.2	3.0	0.0	1.2	0.5	
		1.0	0.7	0.3	0.0	0.1	0.0	
CRIME SAFETY	21.	8	4	1	0	2	1	17
		48.5	23.7	7.7	0.0	11.8	8.3	0.9
		1.1	0.6	0.8	0.0	1.0	1.2	
		0.4	0.2	0.1	0.0	0.1	0.1	
ENERGY	22.	11	17	1	3	7	5	45
		25.2	38.2	2.7	7.4	16.1	10.5	2.3
		1.5	2.7	0.7	5.4	3.5	4.1	
		0.6	0.9	0.1	0.2	0.4	0.2	
CURRENT AFFAIRS	23.	23	12	0	1	2	9	47
		46.2	26.1	0.0	1.3	4.9	19.5	2.4
		3.1	1.9	0.0	1.0	1.1	8.0	
		1.2	0.6	0.0	0.0	0.1	0.5	
OTHER	24.	60	29	11	1	8	6	116
		51.7	25.2	9.7	0.5	7.3	5.6	6.0
		8.1	4.6	6.5	1.0	4.2	5.6	
		3.1	1.5	0.6	0.0	0.4	0.3	
COLUMN TOTAL		734	639	171	61	204	115	1925
		38.1	33.2	8.9	3.2	10.6	6.0	100.0

APPENDIX VIII. LEAST IMPORTANT FACTOR AS REFLECTED IN EACH WORK RELATED SITUATION

Q1	COUNT / ROW PCT / COL PCT / TOT PCT	Q27 COST 1.	TIME 2.	UP TO DATE 3.	ACCURACY 4.	UNDERSTANDABILITY 5.	UNABLE TO CHOOSE 6.	ROW TOTAL
NEIGHBORHOOD	1.	4	3	0	1	0	3	10
		36.4	28.3	0.0	9.1	0.0	27.3	0.6
		0.5	0.7	0.0	1.8	0.0	2.7	
		0.2	0.2	0.0	0.1	0.0	0.2	
CONSUMER	2.	15	10	2	2	5	3	37
		40.3	28.0	6.5	4.0	12.6	8.6	2.4
		2.0	2.8	1.7	3.0	4.1	3.2	
		1.0	0.7	0.2	0.1	0.3	0.2	
HOUSING	3.	7	8	1	1	4	3	24
		30.3	34.5	2.5	5.0	16.4	11.3	1.5
		0.9	2.2	0.4	2.4	3.4	2.7	
		0.5	0.5	0.0	0.1	0.3	0.2	
CHANGING JOBS	4.	123	98	37	13	32	12	316
		39.0	31.0	11.8	4.1	10.2	3.9	20.4
		16.1	26.2	25.8	25.6	28.3	12.1	
		8.0	6.3	2.4	0.8	2.1	0.8	
SALARY BENEFITS	5.	55	32	14	3	7	9	120
		45.9	26.8	11.5	2.5	6.0	7.4	7.8
		7.2	8.6	9.5	6.0	6.3	8.8	
		3.6	2.1	0.9	0.2	0.5	0.6	
ORGANIZATIONAL	6.	89	41	16	5	9	10	171
		52.3	23.8	9.6	2.9	5.5	6.0	11.0
		11.7	10.9	11.3	9.8	8.2	10.1	
		5.8	2.6	1.1	0.3	0.6	0.7	
TECHNICAL	7.	269	84	30	6	32	38	460
		58.6	18.2	6.5	1.3	7.0	8.3	29.7
		35.3	22.4	20.5	12.4	28.3	37.6	
		17.4	5.4	1.9	0.4	2.1	2.5	
	COLUMN TOTAL	763	374	145	50	114	101	1543
		49.3	24.2	9.4	3.2	7.4	6.5	100.0

(CONTINUED)

Q1	COUNT / ROW PCT / COL PCT / TOT PCT	Q27 COST 1.	TIME 2.	UP TO DATE 3.	ACCURACY 4.	UNDERSTANDABILITY 5.	UNABLE TO CHOOSE 6.	ROW TOTAL
8. OTHER WORK		86	48	24	8	8	11	186
		46.3	26.0	12.9	4.3	4.3	6.0	12.0
		11.3	12.9	16.6	16.0	8.0	11.0	
		5.6	3.1	1.6	0.5	0.5	0.7	
11. EDUCATION		27	17	4	4	6	3	61
		44.3	28.3	6.2	6.2	10.4	4.9	4.0
		3.6	4.6	2.6	7.0	5.0	2.8	
		1.8	1.1	0.2	0.2	0.4	0.2	
12. HEALTH		25	6	3	1	2	2	38
		65.2	15.3	7.9	2.1	5.5	4.0	2.4
		3.2	1.5	2.1	1.0	1.8	1.5	
		1.6	0.4	0.2	0.1	0.1	0.1	
13. TRANSPORTATION		9	0	1	0	1	3	13
		69.4	0.0	4.6	0.0	9.2	20.8	0.8
		1.1	0.0	0.3	0.0	1.0	2.7	
		0.5	0.0	0.0	0.0	0.1	0.2	
14. RECREATION		7	4	0	2	1	2	15
		48.7	25.0	0.0	9.9	5.3	11.2	1.0
		1.0	1.0	0.0	3.0	0.7	1.7	
		0.5	0.2	0.0	0.1	0.1	0.1	
15. MONEY MATTERS		11	8	3	4	2	1	28
		38.0	26.8	10.9	13.0	7.0	4.2	1.8
		1.4	2.0	2.1	7.4	1.7	1.2	
		0.7	0.5	0.2	0.2	0.1	0.1	
16. PUBLIC ASSIST		0	1	0	0	1	0	1
		0.0	61.5	0.0	0.0	38.5	0.0	0.1
		0.0	0.2	0.0	0.0	0.4	0.0	
		0.0	0.1	0.0	0.0	0.0	0.0	
(CONTINUED)	COLUMN TOTAL	763	374	145	50	114	101	1548
		49.3	24.2	9.4	3.2	7.4	6.5	100.0

Q1	Q27 COST 1.	TIME 2.	UP TO DATE 3.	ACCURACY 4.	UNDERSTANDABILITY 5.	UNABLE TO CHOOSE 6.	ROW TOTAL
17. CHILD CARE	7 40.1 0.9 0.5	3 16.9 0.8 0.2	4 22.0 2.7 0.3	1 7.9 2.0 0.1	2 9.6 1.8 0.1	1 3.4 0.6 0.0	18 1.1
18. OTHER FAMILY	1 38.5 0.1 0.0	1 61.5 0.2 0.1	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	1 0.1
19. PERSONAL RELATNS	3 67.4 0.4 0.2	2 32.6 0.4 0.1	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	5 0.3
20. LEGAL	9 71.3 1.1 0.6	3 28.7 0.9 0.2	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	12 0.8
21. CRIME SAFETY	5 81.0 0.7 0.3	0 0.0 0.0 0.0	1 19.0 0.8 0.1	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	6 0.4
22. ENERGY	6 50.9 0.8 0.4	2 15.8 0.5 0.1	2 17.5 1.4 0.1	0 0.0 0.0 0.0	2 15.8 1.8 0.1	0 0.0 0.0 0.0	11 0.7
23. CURRENT AFFAIRS	1 25.0 0.1 0.0	2 75.0 0.4 0.1	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	0 0.0 0.0 0.0	2 0.1
24. OTHER	4 39.1 0.6 0.3	2 20.0 0.6 0.1	3 27.0 2.1 0.2	0 0.0 0.0 0.0	0 0.0 0.0 0.0	2 13.9 1.8 0.1	11 0.7
COLUMN TOTAL	763 49.3	374 24.2	145 9.4	50 3.2	114 7.4	101 6.5	1548 100.0